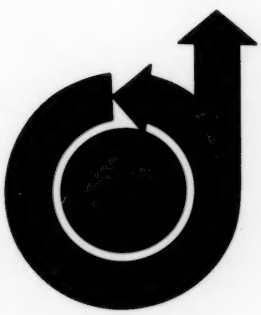
Journals of the AIAA

1968 Author and Subject Indexes

(Including the 1967 Issues of Journal of Hydronautics)

AIAA Journal
Journal of Spacecraft and Rockets
Journal of Aircraft
Journal of Hydronautics



A Publication of the American Institute of Aeronautics and Astronautics

1968

TECHNICAL EDITORS

AIAA JOURNAL

EDITOR-IN-CHIEF

GEORGE W. SUTTON
Avco Everett Research Laboratory

ASSOCIATE EDITORS

MAURICE L. ANTHONY
The Martin Marietta Company
RICHARD H. BATTIN
MIT Instrumentation Laboratory
C. K. CHU
Columbia University
LEONARD A. HARRIS
North American Rockwell Corporation
WILMOT N. HESS
NASA Manned Spacecraft Center
JOHN E. HOVE
Whittaker Corporation
R. KENNETH LOBB
U. S. Naval Ordnance Laboratory
GEORGE H. MARKSTEIN
Cornell Aeronautical Laboratory Inc.
JEAN MAYERS
Stanford University
HAROLD MIRELS
Aerospace Corporation
J. M. SELLEN JR.
TRW Systems Inc.
M. JONATHAN TURNER
The Boeing Company
ROBERTO VAGLIO-LAURIN
New York University

JOURNAL OF SPACECRAFT AND ROCKETS

EDITOR-IN-CHIEF

GORDON L. DUGGER
Applied Physics Laboratory, Johns Hopkins University

ASSOCIATE EDITORS

DAVID H. GARBER
McDonnell Douglas Corporation
JOHN C. HOUBOLT
Aeronautical Research Associates of Princeton
EUGENE S. LOVE
NASA Langley Research Center
BERNARD P. MILLER
RCA Astro Electronics Division
JOHN E. MILLER
MIT Instrumentation Laboratory
ARVIN H. SMITH
NASA Headquarters

JOURNAL OF AIRCRAFT

EDITOR-IN-CHIEF

CARL F. SCHMIDT
Systems Analysis and Research Corporation

ASSOCIATE EDITORS

HERBERT L. GODA
Institute for Defense Analyses
WILLIAM GREATHOUSE
Grumman Aircraft Engineering Corporation
HAROLD D. HOEKSTRA
Federal Aviation Agency

JOURNAL OF HYDRONAUTICS

EDITOR-IN-CHIEF

JOHN P. BRESLIN
Stevens Institute of Technology

ASSOCIATE EDITORS

WINFIELD H. ARATA JR.
Northrop Corporation
LEONARD GREINER
U. S. Divers Company

AIAA

AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS
1290 Avenue of the Americas, New York, N. Y. 10019
Area Code 212 581-4300

1968 OFFICERS

President
FLOYD L. THOMPSON

Treasurer
EDWARD H. SEYMOUR

Vice-Presidents
Publications: JERRY GREY
Technical Activities: EDWARD W. PRICE
Section Affairs: JOHN F. TORMEY

1968 STAFF OFFICERS

Executive Secretary: JAMES J. HARFORD
Secretary: ROBERT R. DEXTER
Controller: JOSEPH J. MAITAN

1968 BOARD OF DIRECTORS

Directors—Technical:
WILLIAM H. AVERY
SEYMOUR M. BOGDONOFF
ROBERT H. CANNON JR.
STARR J. COLBY
DANIEL J. FINK
GEORGE M. LOW

Directors-at-Large:
WILLIAM BOLLAY
R. PAUL HARRINGTON
RICHARD HUTTON
RONALD SMELT
HARRISON A. STORMS
MARVIN WHITLOCK

Directors—Regional:
FREDERICK L. BAGBY
B. G. BROMBERG
ALDEN B. CARDER
LEON GREEN JR.
EINO K. LATVALA
RODGER F. RINGHAM

Director-Past President: HAROLD T. LUSKIN

1968 EDITORIAL STAFF

DIRECTOR OF SCIENTIFIC PUBLICATIONS
RUTH F. BRYANS

MANAGING EDITOR, SCIENTIFIC PUBLICATIONS
ANNE HUTH

ASSISTANT MANAGING EDITOR, SCIENTIFIC PUBLICATIONS
CYNTHIA INSOLIO

COPY EDITORS
EDITH LEWIS
KATHLEEN LOWE

Published by the American Institute of Aeronautics and Astronautics Inc. at 20th & Northampton Sts., Easton, Pa. 18042, U.S.A. Editorial Offices: 1290 Avenues of the Americas, New York, N. Y. 10019. Cable address: INSAERAST NEWYORK. West Coast Office: 7660 Beverly Blvd., Los Angeles, Calif. 90036. European Office: 205 Regent St., London W. 1, England.

Author and Subject Indexes of Papers Published in the Journals of the AIAA

AIAA Journal (Vol. 6, 1968)

Issue	Pages	Issue	Pages
January	1–192	July	1217–1440
February	193–384	August	1441–1632
March	385–576	September	1633–1824
April	577–768	October	1825–2048
May	769–992	November	2049–2240
June	993–1216	December	2241–2464

Journal of Spacecraft and Rockets (Vol. 5, 1968)

Issue	Pages	Issue	Pages
January	1–128	July	753–880
February	129–240	August	881–1008
March	241–368	September	1009–1120
April	369–496	October	1121–1248
May	497–624	November	1249–1376
June	625–752	December	1377–1504

Journal of Aircraft (Vol. 5, 1968)

Issue	Pages	Issue	Pages
January–February	1–96	July–August	321–416
March–April	97–192	September–October	417–512
May–June	193–320	November–December	513–608

Journal of Hydronautics (Vol. 1, 1967, and Vol. 2, 1968)

Issue	Pages	Issue	Pages
July 1967	1–64	April 1968	49–112
October 1967	65–116	July 1968	113–176
January 1968	1–48	October 1968	177–224

SA, TN, EN, and TC, indicate Survey Article, Technical Note, Engineering Note, and Technical Comment, respectively. The initials of the Journal in which the paper was published are in parentheses at the end of each entry. The Volume number also is given for the *Journal of Hydronautics*. In the Subject Index, papers are listed chronologically with Survey papers first, followed by regular articles, Notes, and Comments.

AUTHORS

Abbe, C. J., McLaughlin, C. W., and Weiss, R. R. Influence of storable propellant liquid rocket design parameters on combustion instability (JSR) 584
Abele, Manlio, Medecki, Hector, and Attwood, David. Microwave electron density probe (AIAA J) 901
Abraham, W. H. (JSR; see Kamat, D. V.)
Abramson, H. Norman (JSR; see Kana, Daniel D.)
Achenbach, J. D. and Chou, F. H. Circumferential modes of vibration of a model for a solid-propellant rocket (JSR) 964
——**and Herrmann, G.** Dispersion of free harmonic waves in fiber-reinforced composites (AIAA J) 1832
——**Hemann, J. H., and Ziegler, F.** Tensile failure of interface bonds in a composite body subjected to compressive loads (AIAA J, TN) 2040
Ackroyd, J. A. D. Wall shear stress and heat transfer for shock-induced laminar boundary layers (AIAA J, TN) 1620
Adams, David M. Theoretical assessment of some combustion and expansion problems in rocket motors (JSR) 173
Adams, D. M. Reply by author to C. J. Schorr (JSE, TC) 1120
Adams, H. W. Reliability and operational economics of the next decade of jet transports (JA) 570
Adelberg, M. Mean drop size resulting from the injection of a liquid jet into a high-speed gas stream (AIAA J) 1143
——Level of a boiling liquid in a low-gravity environment (JSR, EN) 108
——Three advanced micro-orifice injector rocket motors (JSR, EN) 353
Africano, Robert C. (AIAA J; see Logsdon, Thomas S.)
Aggarwala, B. D. (JSR, EN; see Iqbal, M.)
Ahlborn, B. (AIAA J, TN; see Potter, M. U.)
Aihara, Yasuhiko. Optimum body geometries of minimum heat transfer at hypersonic speeds (AIAA J, TN) 2187
Ailor, William H., Jr. Evaluation of aluminum after one-year deep sea exposure (JH, Vol 2) 26
Akyuz, F. A. and Merwin, J. E. Solution of nonlinear problems of elastoplasticity by finite element method (AIAA J) 1825
—— **and Utku, Senol.** An automatic node-relabeling scheme for bandwidth minimization of stiffness matrices (AIAA J, TN) 728
Albacete, Lorenzo M. (JSR, TC; see Anderson, John D., Jr.)
Alber, Irwin E. and Lees, Lester. Integral theory for supersonic turbulent base flows (AIAA J) 1343
Album, H. Harvey. Regarding the utility of spiked blunt bodies (JSR, EN) 112
Alkov, R. A. (JA; see Mastropaolo, J. A.)
Allegre, J. and Bisch, C. Angle of attack and leading edge effects on the flow about a flat plate at Mach number 18 (AIAA J) 848
Allen, Charlie C. (JSR, see Huss, Carl R.)
Allendorf, H. Donald. (AIAA J; see Rosner, Daniel E.)
Almgren, D. W. (JSR, EN; see Nathanson, D.)
Almroth, B. O. (AIAA J; see Mah, G. B.)
——**and Bushnell, D.** Computer analysis of various shells of revolution (AIAA J) 1848

Alvarado, U. R. (JSR; see Goldstein, S. E.)

Alzheimer, W. E., Forrestal, M. J., and Murfin, W. B. Transient response of cylindrical, shell-core systems (AIAA J) 1861

——AIAA J, TC; See Forrestal, Michael J.)

Alzner, Edgar. (AIAA J, TN; see Zakkay, Victor)

Ambrosiani, Jack P. (AIAA J, TN; see Ness, Nathan)

Ames, W. F. (AIAA J, see Laganelli, A. L.)

Amster, A. B. (JSR; see Dickinson, Lionel A.)

Anand, D. K. (JSR, EN; see Whisnant, J. M.)

Anderson, D. L. and Lindberg, H. E. Dynamic pulse buckling of cylindrical shells under transient lateral pressures (AIAA J) 589

Anderson, J. B. and Reichenbach, R. E. An investigation of the effect of acceleration on the burning rate of composite propellants (AIAA J) 271

Anderson, John D., Jr. Nongray radiative stagnation point heat transfer (AIAA J, TN) 758

——Heat transfer from a viscous nongray radiating shock layer (AIAA J, TN) 1570

——An equation for stagnation-point radiative heat transfer (AIAA J, TN) 2216

——**Albacete, Lorenzo M. and Winkelmann, Allen E.** Comment on "Shock-wave shapes around spherical- and cylindrical-nosed bodies" (JSR, TC) 1247

Anderson, Melvin S. (AIAA J, TN; see Dixon, Sidney C.)

Andrews, Angus. A square root formulation of the Kalman covariance equations (AIAA J, TN) 1165

Andrus, J. F. (AIAA J; see Miner, W. E.)

Anspach, W. F. (JSR; see Schwartz, S.)

Appl, Franklin J. (AIAA J, TN; see Bert, Charles W.)

Arcand, L. and Comolli, C. R. Optimization of waterjet propulsion for high-speed ships (JH, Vol. 2) 2

Argyropoulos, G. S. (AIAA J, TN; see Lackner, K.)

Ariaratnam, S. T. and Sankar, T. S. Dynamic snap-through of shallow arches under stochastic loads (AIAA J) 798

Armstrong, R. S. and Miller, S. R. Subsonic aerodynamic performance of nozzle installations in supersonic airplanes (JA) 230

Arrington, J. P. (AIAA J, TC; see Bertram, M. H.)

Ashkenas, Irving L. (JA; see Stapleford, Robert L.)

Attwood, David. (AIAA J; see Abele, Manlio)

Au, Robert H. C. and Berger, Stanley A. A theoretical and experimental investigation of the compressible laminar wake behind a long slender cylinder (AIAA J) 1528

Ault, Robert M. (JA; see Lackman, Leslie M.)

Austin, Carl F. and Pringle, J. Kenneth. The moon as a geothermal prospect (AIAA J) 1296

Austin, Fred. Stability criteria for a rotating space station with a nonrotating hub (AIAA J, TN) 2211

Azar, Jamal J. Bending theory for multilayer orthotropic sandwich plates (AIAA J) 2166

Azuma, Akira and Obata, Akira. Induced flow variation of the helicopter rotor operating in the vortex ring state (JA) 381

Babcock, F. M. (JSR; see McNeill, R. L.)

Babcock, Wayne R. (AIAA J, TN; see James, Robert N.)

Babine, Theodore E. (JSR, EN; see Murray, F. Taft)

Babjak, S. J. (JSR; see Lankton, C. S.)

Back, L. H., Massier, P. F., and Cuffel, R. F. Effect of inlet boundary-layer thickness and structure on heat transfer in a supersonic nozzle (JSR, EN) 121

——**Massier, P. F., and Cuffel, R. F.** Heat-transfer measurements in the shock-induced flow separation region in a supersonic nozzle (AIAA J, TN) 923

Baer, A. D. and Ryan, N. W. An approximate but complete model for the ignition response of solid propellants (AIAA J) 872

——(AIAA J, TN; see Oberg, C. L.)

——(AIAA J; see Oberg, C. L.)

Baijal, S. K. (AIAA J, TN; see Rastogi, R. P.)

Bailey, T. E. and Fearn, R. F. Air augmentation test facility (JSR, EN) 610

Bailie, J. A. and McFeely, J. E. Panel flutter in hypersonic flow (AIAA J) 332

Baker, E. H. Experimental investigation of sandwich cylinders and cones subjected to axial compression (AIAA J, TN) 1769

Baker, Jerome M. A statistical analysis of yaw steering for space missions (JSR, EN) 601

Baker, Robert D. Inert calibration of deep-throttling bipropellant rocket engines (JSR) 578

Baker, Robert M. L., Jr. Surveillance-system sensor misassociation of one object with another (JSR, EN) 1494

Baldwin, L. V. and Sandborn, V. A. Intermittency of far wake turbulence (AIAA J, TN) 1163

Ball, K. O. W. and Korkegi, R. H. An investigation of the effect of suction on hypersonic laminar boundary-layer separation (AIAA J) 239

Bampton, Mervyn C. C. (AIAA J; see Craig, Roy R., Jr.)

Banks, B. A. (JSR, EN; see Nakanishi, S.)

Bapat, V. Achyuta Rao and Srinivasan, P. Superposition of frequencies in nonlinear spring mass systems (AIAA J, TN) 1783

Barbery, Thomas B. (JSR, EN; see Purcell, Everett W.)

Barchi, Richard H. (JH, Vol. 2, see Johnson, Bruce)

Barger, R. L. Reply to comment by E. J. Kane (AIAA J, TC) 379

Barneich, J. A. (JSR; see McNeill, R. L.)

Baroody, E. E. (AIAA J, TN; see Lepie, A. H.)

Barrekette, Euval S. Stress compatibility equations in cylindrical coordinates (AIAA J, TC) 767

Barrett, Curtiss C. Orbit adjustment of sun-synchronous satellites with electric propulsion (JSR) 792

Barrows, R. L. (JSR, EN; see Parker, W. S.)

Bartlett, Eugene P. (AIAA J; see Kendall, Robert M.)

——(AIAA J, TC; see Kendall, Robert M.)

Barton, W. R. (JA; see Knapp, C. F.)

Bass, Bennett R. (AIAA J, TC; see Webb, George R.)

Bastress, E. K. and Niessen, W. R. A hot-gas tunnel for convective heating experiments (JSR, EN) 211

Batt, Richard G. and Kubota, Toshi. Experimental investigation of laminar near wakes behind 20° wedges at $M_\infty = 6$ (AIAA J) ... 2077

Battin, Richard H. (JSR; see Martin, Frederick H.)

Bauer, Andrew B. Near-wake injection experiments (AIAA J, TN) 1597

Bauer, Helmut F., Siekmann, Julius, and Wang, James T. S. Axisymmetric hydroelastic sloshing in an annular cylindrical container (JSR, EN) 981

Bauer, R. C. Another estimate of the similarity parameter for turbulent mixing (AIAA J, TN) 925

Bauld, Nelson R., Jr. (AIAA J, TN; see Johnson, Conor D.)

Baulknight, Charles W. Comments on "Preignition phenomena in small A-50/NTO pulsed rocket engines" (JSR, TC) 1008

Baum, Eric. An interaction model of a supersonic laminar boundary layer on sharp and rounded backward facing steps (AIAA J) 440

Beachell, H. C. (AIAA J, TN; see Hackman, E. E., III)

Beam, Benjamin H. (JSR, EN; see Russell, Larry D.)

Bechtel, Robert T. Discharge chamber optimization of the SERT II thruster (JSR) 795

Beck, T. R. and Blackburn, M. J. Stress corrosion cracking of titanium alloys (AIAA J) 326

Becker, Herbert. Compressive buckling of barrel-shaped shells (JSR, EN) 746

Beerbower, A., Nixon, J., and Wallace, T. J. Non-Newtonian fuels for aircraft safety (JA) 367

Behrens, Wilhelm. Wake behind cylinders at hypersonic speeds: II. Stability (AIAA J) 225

Bendavid, Dror. (AIAA J; see Singer, Josef)

Benenson, David M., Duhan, Daniel P., and Naeher, Carl H. Dynamic response of coaxial electric arcs (AIAA J, TN) 917

Benoit, A. Linear attitude programs applied to the guidance of European space vehicles, and comparison with the optimal control law (JSR, EN) 613

Berger, Stanley A. (AIAA J; see Au, Robert H. C.)

Berman, David. Effects of mechanical imperfections on performance of a rotating gravity gradiometer (JSR) 1193

Bernstein, Allen I. and Blumrich, Josef F. Concepts for more efficient bulkhead designs for launch and space vehicles (JSR) 1404

Bernstein, Harold. Pressure hulls for deep-submergence vehicles (JH, Vol. 1) 22

Bert, Charles W., Crisman, W. C., and Nordby, Gene M. Fabrication and full-scale structural evaluation of glass-fabric reinforced plastic shells (JA) 27

——Comments on "A note on the general solution of the two-dimensional linear elasticity problem in polar coordinates" (AIAA J, TC) 568

——**and Appl, Franklin J.** General solution for two-dimensional couple-stress elasticity (AIAA J, TN) 968

Bertolini, E., Gasparotto, M., Gay, P., Hoffman, M. A., and Toschi, R. Experimental analysis of an MPD closed-cycle generator with quasi-equilibrium plasma (AIAA J) 1658

Bertram, Mitchel H. Finite Mach number weak interaction on a flat plate (AIAA J, TN) 984

——**Weinstein, L. M., Cary, A. M., Jr., and Arrington, J. P.** Erratum: "Heat transfer to wavy wall in hypersonic flow" (AIAA J, TC) 1216

Bethel, Howard E. Approximate solution of the laminar boundary-layer equations with mass transfer (AIAA J) 220

Bevans, Jerry T. (AIAA J, TN; see Ishimoto, Takao)

——(JSR, EN; see Ishimoto, Takao)

Beylich, Alfred. High-sensitive film gages for low-density shock tubes (AIAA J, TN) 753

Beynon, J. C. (JSR; see Huberman, M. N.)

Bhatia, N. M. and Nachbar, W. Finite indentation of elastic-perfectly plastic membranes by a spherical indenter (AIAA J) 1050

Bhutani, Om Prakash and Nanda, Kul Deepak. A general theory of thin airfoils in nonequilibrium magnetogasdyamics. Part I: Aligned magnetic field (AIAA J) 1757

——**and Nanda, Kul Deepak.** A general theory of thin airfoils in nonequilibrium magnetogasdynamic. Part II: Transverse magnetic field (AIAA J) 2122

Bickford, L. L. (JSR, EN; see McCalister, D. A.)

Bieber, R. E. (AIAA J, TN; see Chang, C. S.)

Bier, R. J. and Brolly, S. D. Development of an onboard checkout system simulator using an alphanumeric display (JSR) 1199

Billig, F. S., Orth, R. C., and Lasky, M. Effects of thermal compression on the performance estimates of hypersonic ramjets (JSR) ... 1076

——(JA; see Grenleski, Stephen E.)

Bird, G. A. (AIAA J; see Vogenitz, F. W.)

Birkebak, Richard C. (AIAA J, TN; see Cremers, Clifford J.)

Birnbaum, Morris M. and Salomon, Phil M. Strapdown star tracker for space vehicle attitude control (JSR) 1188

Bisch, C. (AIAA J; see Allegre, J.)

Bishop, W. M. and DiCristina, V. Prediction technique for ablative material performance under high-shear re-entry conditions (AIAA J) 59

Black, W. L., Crocker, M. C., and Swenson, E. H. Stationkeeping a 24-hr satellite using solar radiation pressure (JSR, EN) 335

Blackburn, M. J. (AIAA J; see Beck, T. R.)

Blackburn, T. R. Solution of the algebraic matrix Riccati equation via Newton-Raphsen iteration (AIAA J, TN) 951

Blackmer, R. H., Jr. and Serebreny, S. M. Studies for aerospace global cloud models (JSR, EN) 1476

Blatt, M. H. Empirical correlations for pressure rise in closed cryogenic containers (JSR, EN) 733

Blick, Edward F. and Walters, Robert R. Turbulent boundary-layer characteristics of compliant surfaces (JA) 11

——Pitch-damping coefficients at hypersonic speeds (AIAA J, TN) .. 164

——**Walters, R. R., and Von Rosenberg, C.** Similarity rule estimation methods for cone flow with variable gamma (AIAA J, TN) ... 959

Blitzer, Leon, Davis, Donald R., and de Sulima, Trella H. Equilibrium longitudes of geostationary satellites (AIAA J, TN) 1199

Block, P. (JSR; see Schoenman, L.)
Blom, A. P. and Pratt, N. H. Interpretation of band-reversal temperature measurements (AIAA J, TN) ... 1172
Bloom, M. H. (AIAA J; see Lederman, S.)
Bloor, M. I. G. Effect of radiative heat transfer on the hypersonic shock layer (AIAA J, TN) ... 2006
Blumer, C. B. (AIAA J, TN; see Wells, C. S., Jr.)
——(AIAA J; see van Driest, E. R.)
Blumrich, Josef F. (JSR; see Bernstein, Allen I.)
Bluston, H. S. Reply by author to D. Finkleman (AIAA J, TC) ... 2237
Bobco, R. P. (JSR; see Hering, R. G.)
Boedeker, Laurence R. and Haldeman, Charles W. Some experimental results from a nonequilibrium rf discharge (AIAA J, TN) .. 538
Bogdonoff, S. M., Hayes, W. D., and McCroskey, W. J. Reply by authors to K. Stewartson (AIAA J, TC) ... 1628
Bogner, F. K. (AIAA J; see Schmit, L. A.)
Bond, Charles E. and Potillo, Robert W. Stability and slanting of the electric arc in a thermionic rail accelerator (AIAA J, TN) ... 1565
Bonnell, John M. Combustion stability in an annular gas combustor (AIAA J) ... 1941
Boobar, M. G. (JSR; see Repic, E. M.)
Boorady, F. A. and Douglass, D. S. Solution of the high-vacuum hard-start problem of the IRFNA-UDMH rocket for Gemini Agena (JSR) ... 22
Borchers, K. H., Lightfoot, C. S., and Hovey, R. W. Translation and application of aerospace management technology in socio-economic problems (JSR, EN) ... 467
Bose, Tarit K. Theoretical studies on performance of a magneto-fluiddynamic (MFD) converingng-diverting nozzle (JSR, EN) ... 617
Bossel, Hartmut H. Stagnation criterion for vortex flows (AIAA J, TN) ... 1192
Bostick, W. H. (AIAA J, TN; see Valsamakis, E. A.)
Bott, F. W. (JSR; see Redmond, J. H.)
Bott, Jerry F. Massive blowing experiments (AIAA J) ... 613
Bowers, J. L., Rodden, J. J., Scott, E. D., and DeBra, D. B. Orbital gyrocompassing heading reference (JSR) ... 903
Bowman, J. E. and Clayden, W. A. Boat-tailed afterbodies at M_∞ = 2 with gas ejection (AIAA J, TN) ... 2029
——(AIAA J, TN; see Clayden, W. A.)
Bowman, Robert L. and Mirtich, Michael J. Performance of CdS solar cells after simulated micrometeoroid exposure (AIAA J, TN) .. 378
——(AIAA J, TC; see Mirtich, Michael J.)
Boyd, B. R. (JSR, EN; see Johnson, R. J.)
Boyd, D. E. and Kishore, B. R. Thermal stresses in axially loaded orthotropic cylinders (AIAA J, TN) ... 980
Boylan, D. E. (JSR; see Griffith, B. J.)
Boyles, Richard Q. Aircraft design augmented by a man-computer graphic system (JA) ... 486
Boynton, F. P., Ludwig, C. B., and Thomson, A. Spectral emissivity of carbon particle clouds in rocket exhausts (AIAA J) ... 865
——Exhaust plumes from nozzles with wall boundary layers (JSR) .. 1143
Bradley, James W. Density determination from axisymmetric interferograms (AIAA J, TN) ... 1190
Bradley, Richard G. Approximate solutions for compressible turbulent boundary layers in three-dimensional flow (AIAA J) ... 859
Brandau, John H. Performance of waterjet propulsion systems—A review of the state-of-the-art (JH, Vol. 2) ... 61
Brandmaier, H. E. Electrofluid-dynamic generator performance limits (AIAA J, TN) ... 1166
——(AIAA J, TN; see Dworschak, J. R.)
Braswell, D. W., Ranson, W. F., and Swinson, W. F. Scattered light photoelastic thermal stress analysis of a solid-propellant rocket motor (JSR) ... 1411
Breaux, Harold J. A numerical method for a Stefan problem (AIAA J, TC) ... 1821
Brederlow, G. and Hodgson, R. T. Electrical conductivity in seeded noble gas plasmas in crossed electric and magnetic fields (AIAA J) ... 1277
Brereton, R. C. (AIAA J; see Modei, V. J.)
——**and Modi, V. J.** Accuracy of the numerically generated integral manifolds (AIAA J, TN) ... 1415
Breslin, John P. Engineering in the seas around us (JH, Vol. 1) ... 1
—:Industry and the National Sea Grant College Program (JH, Vol. 2) ... 1
Breuch, R. A. (JSR; see Marshall, K. N.)
——Comment on "Effect of simulated micrometeoroid exposure on performance of N/P silicon solar cells" (AIAA J, TC) ... 380
Breuhaus, W. O. and Bull, G. In-flight simulation for training? (JA) ... 150
Brevig, Ola. A simplified, preliminary comparison between the ejector ramjet and the shrouded rocket (JSR) ... 444
Bridges, Wendell J. (JH, Vol. 2; see Palamara, Ronald D.)
Briggs, R. A. (AIAA J, TN; see Korkegi, R. H.)
Broadwell, J. E. (JSR; see Murch, C. K.)
——(AIAA J; see Vogenitz, F. W.)
Brock, John E. Optimal matrices describing linear systems (AIAA J) ... 1292
——(AIAA J, TN; see Pellett, David A.)
Brock, Larry D. and Schmidt, George T. Statistical estimation in inertial navigation systems (JSR) ... 146
Brolly, S. D. (JSR; see Bier, R. J.)
Brooks, D. R. (AIAA J, TN; see Hoell, J. M.)
Brown, Alan C., Nawrocki, H. Franz, and Paley, Peter N. Subsonic diffusers designed integrally with vortex generators (JA) ... 221
Brown, E. L. and Fischer, J. N. Comparative projections of low-disk-loading VTOL aircraft for civil applications (JA) ... 436
Brown, John E., Hutt, Johnny M., and Salama, Ahmed E. Finite element solution to dynamic stability of bars (AIAA J, TN) ... 1423
Brown, R. S., Muzzy, R. J., and Steinle, M. E. Surface reaction effects on the acoustic response of composite solid propellants (AIAA J) ... 479
Browning, Stanley C. (AIAA J, TN; see Mayberry, John L.)
Bruce, D. M. (JA; see Dransfield, P.)
Bruch, John C., Jr. and King, Hartley H. Transient expansion of real hydrogen from a storage reservoir (AIAA J, TN) ... 1785
Brunner, M. J., Dohner, C. V., and Lawit, R. L. Re-entry of radioactive power sources (JSR) ... 448
Bruno, P. S. (AIAA J; see Horton, M. D.)
Brush, Don O. Imperfection sensitivity of stringer stiffened cylinders (AIAA J, TN) ... 2445
Bryson, A. E., Jr. and Henrikson, L. J. Estimation using sampled data containing sequentially correlated noise (JSR) ... 662
——(AIAA J; see Speyer, Jason L.)
Buckingham, Arthur G. and Watson, Harold M. Basic concepts of orbiting reflectors (JSR, EN) ... 851
Buckley, C. Peter. (JH, Vol. 1, EN; see Fonda-Bonardi, Giusto)
Bueker, Robert and Willard, Myra T. Interplanetary spacecraft decontamination operations and equipment (JSR, EN) ... 990
Buelow, F. H. (AIAA J; see Hassan, S. A.)
Bull, D. C. and Edwards, D. H. An investigation of the reflected shock interaction process in a shock tube (AIAA J) ... 1549
Bull, G. (JA; see Breuhaus, W. O.)
Bullard, Clark W. (JSR, EN; see Papis, Tadeusz)
Burghart, James H. (AIAA J, TN; see Kern, Edward A.)
Burke, A. G., III. (JSR, EN; see Hertzler, R. G.)
Burkhalter, Johnny E., Sforzini, Richard H., and Tinsley, Charles R. Investigations of geysering in vertical tubes (JSR, EN) ... 854
Burkhart, James A. (AIAA J; see Connolly, Denis J.)
Burns, A. Bruce. Weight comparison of ring- vs ring/stringer-stiffened cylindrical pressure hulls (JH, Vol. 2) ... 113
——Optimum stiffened cylinders for combined axial compression and internal or external pressure (JSR) ... 690
Burns, Raymond K. and Oliver, Calvin C. Downstream radiation flux to blunt entry vehicles (AIAA J, TN) ... 2452
Burrows, A. A. (JA; see Mastropaolo, J. A.)
Burrows, R. M., Jr. (JSR, EN; see Weil, W. M.)
Burrows, R. W. The long-life spacecraft problem (JSR, EN) ... 362
Bursnall, W. J. (JSR; see Rosing, S. L.)
Burton, Norris R. Analytic simulation of spacecraft sensor outputs (JSR, EN) ... 749
Burton, Rodney L. and Chang, Orson Yah-Shing. Acceleration process in a stabilized high-current arc (AIAA J, TN) ... 2190
Burton, R. W. (JSR; see Chappell, R. N.)
Busch, C. W., Warnock, A. S., Laderman, A. J., and Oppenheim, A. K. Pressure wave generation in particle-fueled combustion systems: II. Influence of particle motion (AIAA J) ... 286
Bush, William B. and Rosen, Robert. Newtonian hypersonic theory for normal shock wave structure (AIAA J, TN) ... 170
Bushnell, David. Inextensional buckling of spherical shells with edge rings (AIAA J) ... 361
——(AIAA J; see Almroth, B. O.)
Bushnell, Dennis M. and Gooderum, Paul B. Atomization of superheated water jets at low ambient pressures (JSR, EN) ... 231
——**and Weinstein, Leonard M.** Correlation of peak heating for reattachment of separated flows (JSR, EN) ... 1111
Byron, R. A. and Morse, C. P. Advanced pressurization system for liquid rockets (JSR, EN) ... 1488
Cades, S. B. (JSR; see Medin, A. L.)
Calvit, Harry H. Plane and spherical detonation waves in solid explosives (AIAA J, TN) ... 1610
Camac, Morton. (AIAA J; see Sutton, George W.)
Campbell, B., Messerle, H. K., Ludvik, S., and Stokes, A. D. Electrical shock tube with stabilized driver interface (AIAA J, TN) ... 1579
Campbell, D. M. (AIAA J; see Herrmann, L. R.)
Cann, G. L. and Harder, R. L. Thrust efficiencies of electromagnetic engines (AIAA J, TN) ... 558
Canning, Thomas N., Wilkins, Max E., and Tauber, Michael E. Ablation patterns on cones having laminar and turbulent flows (AIAA J, TN) ... 174
Cantin, A. (AIAA J, TN; see Heckman, D.)
Cantin, Gilles and Clough, Ray W. A curved, cylindrical-shell, finite element (AIAA J) ... 1057
——Strain displacement relationships for cylindrical shells (AIAA J, TN) ... 1787
Capener, E. L. (JSR; see Dickinson, Lionel A.)
Cappelli, A. P. (AIAA J; see Wilkinson, J. P. D.)
Carden, William H. (JSR; see Potter, J. Leith)
Cardullo, Mario W. Maritime satellite service (JSR, EN) ... 1479
Carey, Lee. Dual-mode, 100: 1 thrust modulation rocket engine (JSR) ... 168
Carlson, D. J. (JSR, TC; see Laderman, A. J.)
——(AIAA, TC; see Laderman, A. J.)
Carlson, G. E. (JSR, EN; see Elsey, J. C.)
Carosella, Carmine A. Shielding of solar cells against Van Allen belt protons (JSR, EN) ... 878
Carpenter, Lloyd. (AIAA J; see Kolenkiewicz, Ronald)
Carter, C. and Heywood, J. B. Optimization studies on open-cycle MHD generators (AIAA J) ... 1703
Carter, L. L. and Stearman, R. O. Some aspects of cylindrical shell panel flutter (AIAA J) ... 37
Cary, Aubrey M., Jr. Turbulent boundary-layer heat transfer and transition measurements for cold-wall conditions at Mach 6 (AIAA J, TN) ... 958
——(AIAA J, TC; see Bertram, M. E.)
Cary, Robert C. (JSR; see Fosdick, George E.)
Cassanto, John M., Smrz, John P., and Eichel, Donald A. Proof tests of the terminal parachute-recovery system for the biosatellite (JSR, EN) ... 348
——**and Mendelson, Richard S.** Local flow effects on base pressure (AIAA J, TN) ... 1182
——Base pressure results at M = 4 using free-flight and sting-supported models (AIAA J, TN) ... 1411

Cassidy, John F. and Krawczonek, Walter M. Accurate surface temperature measurements at liquid-helium conditions in space environment facilities (JSR) 1291
Catton, I., Hill, D. E., and McRae, R. P. Study of liquid jet penetration in a hypersonic stream (AIAA J) 2084
Cavanaugh, D. J. (JSR; see Medin, A. L.)
Caveny, L. H. and Pittman, Charles U., Jr. Contribution of solid-phase heat release to AP composite-propellant burning rate (AIAA J) 1461
Cebeci, Tuncer and Smith, A. M. O. Investigation of heat transfer and of suction for tripping boundary layers (JA) 450
——**and Smith, A. M. O.** Calculation of profile drag of airfoils at low Mach numbers (JA) 535
Center, R. E. Comment on "Diffusive separation in shock waves and freejets of nitrogen-helium mixtures" (AIAA J, TC) 2238
Ceresuela, Rene. Aerodynamic problems of sounding-rocket vehicles (JSR) 96
Cerini, Donald J. and Elliott, D. G. Performance characteristics of a single-wavelength liquid-metal MHD induction generator with end-loss compensation (AIAA J) 503
Cess, R. D. (AIAA J, TN; see Mighdoll, P.)
Chamberlain, Robert G. Launch probability models for a single space vehicle (JSR, EN) 860
Chang, C. C., Chi, S. W., and Chen, C. M. Experimental exploration of recirculation zone in the gas-core nuclear rocket concept (JSR, EN) 480
Chang, C. S. and Bieber, R. E. Synthesis of structural damping (AIAA J, TN) 718
Chang, Orson Yah-Shing. (AIAA J, TN; see Burton, Rodney L.)
Chang, P. (AIAA J; see Wu, Y. C. L.)
Chang, P. K. and Oh, Y. H. Axially symmetric incompressible turbulent wake downstream of a single body (JH, Vol. 2, EN) 223
Chang, T. S. and Sartory, W. K. Comments on "Circulatory flow of a conducting liquid about a porous, rotating cylinder in a radial magnetic field (AIAA J, TC) 382
Chapel, F. G. (JSR; see Repic, E. M.)
Chapel, R. E. and Smith, H. W. Finite-difference solutions for plane stresses (AIAA J, TN) 1156
Chapman, Alan J. (AIAA J; see Russell, Lynn D.)
Chappell, R. N., Jensen, F. R., and Burton, R. W. Statistical service life prediction: minuteman third-stage propellant grain (JSR) ... 42
Chapter, John J. Simplified thermal networks for the lunar module (JSR, EN) 1243
Chatterji, A. S. (AIAA J, TN; see Gupta, A. S.)
Chehil, D. S. and Cheng, S. Elastic buckling of composite cylindrical shells under torsion (JSR) 2973
Chen, C. C. (AIAA J; see Gibson, C. H.)
——(JH, Vol. 1; see Kaplan, Paul)
Chen, C. F. and Wirtz, Richard A. Second-order theory for flow past oscillating foils (AIAA J) 1556
Chen, C. M. (JSR, EN; see Chang, C. C.)
Chen, K. K. and Libby, Paul A. Spatial stability of the new solutions of the Falkner-Skan Equation (AIAA J, TN) 1168
Chen, T. L. (AIAA J, TN; see Parks, V. J.)
Cheney, James A. (JSR; see Tsui, Edward Y. W.)
Cheng, H. K. and Lee, R. S. Freezing of dissociation and recombination in supersonic nozzle flows: Part I. General discussion and special analysis (AIAA J) 823
——**and Lee, R. S.** Freezing of dissociation and recombination in supersonic nozzle flows: Part II. More general analysis and numerical example (AIAA J) 831
——(JSR; see Chehil, D. S.)
Cheng, Shun. (AIAA J.; see Ugural, A. C.)
Chervinsky, Amnon. Similarity of turbulent axisymmetrical swirling jets (AIAA J, TN) 912
Chi, S. W. (JSR, EN; see Chang, C. C.)
Chidley, J. D. (JSR, EN; see Seader, J. D.)
Chien, K. Y. (AIAA J, TN; see Finkleman, D.)
Childs, Morris E. (JA; see Seebaugh, William R.)
Ching, A. (JSR; see Tsao, C. H.)
——**and Welsh, W. E., Jr.** Strength and stress-strain properties of rapidly heated laminated ablative materials (AIAA J) 2312
Chinitz, Wallace (AIAA J, TN; see Spadaccini, Louis J.)
Chisnell, R. F. Radiant heat transfer in a spherically symmetric medium (AIAA J, TN) 1389
Chobotov, V. Radially vibrating, rotating gravitational gradient sensor (JSR) 434
Chou, F. H. (JSR; see Achenbach, J. D.)
Chou, Pei Chi. Analysis of axisymmetrical motions of cylindrical shells by the method of characteristics (AIAA J) 1492
Chou, Shun-Chin and Greif, Robert. "Numerical solution of stress waves in layered media (AIAA J) 1067
Chow, W. L. and Eilers, R. E. Hypersonic low-density flow past slender wedges (AIAA J, TN) 177
——Study of jet mixing problems by Meksyn's method (AIAA J, TN) 2422
Christenson, E. A. Reply by author to A. Maciulaitis (AIAA J, TC) . 1214
Christos, T. (JSR, EN; see Perlee, H. E.)
Chu, S. T. and Davis, K. S. Multiple site return probability of spacecraft from circular and elliptical orbits (JSR) 419
Chu, T. K. and Gottschlich, Chad F. Temperature measurement of an alkali metal-seeded plasma in an electric field (AIAA J) 114
Chu, Wen-Hwa. Unsteady boundary-layer flow over an oscillating thin foil (JH, Vol. 2) 93
Chubb, W. B., Schultz, D. N., and Seltzer, S. M. Attitude control and precision pointing of Apollo telescope mount (JSR) 896
Chung, P. M., Holt, J. F., and Liu, S. W. Merged stagnation shock layer of nonequilibrium dissociating gas (AIAA J) 2372
Cimino, A. A. (JSR, EN; see McCaskill, A. M.)
Clark, G. E. (AIAA J, TN; see Touryan, K. J.)
——(AIAA J, TC; see Touryan, K. J.)
Clark, H. T. (AIAA J, TN; see Shahrokhi, F.)
Clark, James W., Johnson, Bruce V., Kendall, John S., Mensing, Aruthr E., and Travers, Arthur. Open-cycle and light-bulb types of vortex-stabilized gaseous nuclear rockets (JSR) 941
Clark, K. E. (AIAA J; see Eckbreth, A. C.)
Clayden, W. A. (AIAA J, TN; see Bowman, J. E.)
——**and Bowman, J. E.** Cylindrical afterbodies at $M_\infty = 2$ with hot gas ejection (AIAA J, TN) 2429
Clayton, B. R. and Massey, B. S. An analogy for laminar boundary layers on curved or porous surfaces (AIAA J, TN) 1813
Clayton, R. M., Rogero, R. S., and Sotter, J. G. An experimental description of destructive liquid rocket resonant combustion (AIAA J) 1252
Cleeves, V. F. (JA; see Hauger, H. H.)
Clough, Ray W. (AIAA J; see Cantin, Gilles)
Cloutier, Gerald J. Dynamics of deployment of extendible booms from spinning space vehicles (JSR) 547
——Stable rotation states of dual-spin spacecraft (JSR, EN) 490
Coakley, T. J. Dynamic stability of symmetric spinning missiles (JSR, EN) 1231
Coats, D. E. (AIAA J; see Fendell, Francis E.)
Cockfield, Robert D. Structural optimization of a space radiator. (JSR, EN) 1240
Cogley, Allen C., Vincenti, Walter G., and Gilles, Scott E. Differential approximation for radiative transfer in a nongrey gas near equilibrium (AIAA J, TN) 551
Cohen, E. (JSR; see Huberman, M. N.)
Cohen, Gerald A. Computer analysis of asymmetric buckling of ring-stiffened orthotropic shells of revolution (AIAA J) 141
——Effect of a nonlinear prebuckling state on the postbuckling behavior and imperfection sensitivity of elastic structures (AIAA J, TN) 1616
Cohen, Ira M. and Schweitzer, S. First-order effects of production on the continuum theory of spherical electrostatic probes (AIAA J) 298
Cole, Richard B. (AIAA J; see McAlevy, Robert F., III)
Coleman, W. D., Hearne, L. F., Lefferdo, J. M., Gallagher, L. W., and Vojvodich, N. S. Effects of environmental and ablator performance uncertainties on heat-shielding requirements for hyperbolic entry vehicles (JSR) 1260
Collier, Edward L. and Gourdine, Meredith C. Resistive wall EGD channel (AIAA J) 2278
Colp, John L., Pepper, William B., Wilkes, Perry R., and Widdows, Harold E. Trailing camera (JSR, EN) 616
Comolli, C. R. (JH, Vol. 2; see Arcand, L.)
Conn, Charles E., Jr. Influence of solid-state diffusion bonding on structural design (JSR, EN) 600
Connolly, Denis J., Sovie, Ronald J., Michels, Charles J., and Burkhart, James A. Low environmental pressure MPD arc tests (AIAA J) 1271
Connors, Alonzo J. (JA; see Swaim, Robert L.)
Conrad, E. William (JSR; see Tomazic, William A.)
Conti R. J. (AIAA J, TN; see Thomas P. D.)
Coogan, J. Michael. A method for studying planetary atmospheres employing the dual flyby mode (JSR) 625
Coons, S. A. and Herzog, B. Surfaces for computer-aided aircraft design (JA) 402
Cope, P. E. G. (JSR; see Hazell, J. F.)
Copeland, Alan B., Covert, Eugene E., and Petersen, Robert A. Wind-tunnel measurement at M = 4.28 of some static and dynamic aerodynamic characteristics of finned missiles suspended magnetically (JSR) 838
Cornell, Merrill E. Implementation of safety provisions in manned systems (JSR, EN) 359
Corrsin, S. Effect of passive chemical reaction on turbulent dispersion (AIAA J, TN) 1797
——Conjecture on a connection between lift and particle displacement (AIAA J, TN) 1811
Corso, C. J. (JSR; see Monroe, J. W.)
Costello, Robert G. (AIAA J, TN; see Pellett, David A.)
Counselman, Charles C., III. Asymptotic stability and generalized forces in periodic systems (AIAA J, TN) 1383
Courtney, W. J. (JSR, EN; see Erdman, Carl A.)
Covert, Eugene E. (JSR; see Copeland, Alan B.)
Coward, Ken S. (JSR; see Nelson, William J.)
Cowling, Peter W. (AIAA J, TN; see Milligan, Mancil W.)
Cox, Ted L. Safety in the Cachalot saturation diving system operations (JH, Vol. 2) 187
Craig, Roy R., Jr. (JSR; see Kana, Daniel D.)
——**and Bampton, Mervyn C. C.** Coupling of substructures for dynamic analyses (AIAA J) 1313
Crane, W. E. (JSR; see Orr, J. W.)
Crawford, D. R. and Holt, M. Method of integral relations as applied to the problem of laminar free mixing (AIAA J, TN) 372
Cremers, Clifford J., Shiver, Warren D., and Birkebak, Richard C. Film-cooling of a plasma generator anode (AIAA J, TN) 1774
Crenshaw, Jack W. and Fitzpatrick, Philip M. Gravity effects on the rotational motion of a uniaxial artificial satellite (AIAA J) 2140
Cresswell, R. A. (JA; see Pickerell, D. J.)
Crisman, W. C. (JA; see Bert, Charles W.)
Crocker, M. C. (JSR, EN; see Black, W. L.)
Cronander, J. A. (JH, Vol. 2; see Kuska, N.)
Crosby, J. R. (JSR; see Lankton, C. S.)
Crowder, R. S. (JSR; see McCarthy, J. F., Jr.)
Crowder, Veryl Dean. Integration of a rocket motor into the scout vehicle (JSR, EN) 1482
Crown, J. C. Calculation of transonic flow over thick airfoils by integral methods (AIAA J) 413
Cuffel, R. F. (JSR, EN; see Back, L. H.)
——(AIAA J, TN; see Back, L. H.)
Culick, F. E. C. A review of calculations for unsteady burning of a solid propellant (AIAA J, SA) 2241
——Some nonacoustic instabilities in rocket chambers arc acoustic (AIAA J, TN) 1421

Cunningham, E. P. Lambda matrix terminal control for missile guidance (JSR, EN) 119
Cygnarowicz, Thomas A. and Gibson, Robert N., Jr. Design and performance of a thermal storage resistojet (JSR) 686
Czuchry, Andrew J. and Pitkin, Edward T. Regularization in optimal trajectory problems (AIAA J, TN) 1209
Dahm, Thomas J. and Kendall, Robert M. Comment on "Inner region of transpired turbulent boundary layers" (AIAA J, TC) 1822
Da-Riva, I. and Urrutia, J. L. Ignition delay in diffusive supersonic combustion (AIAA J) 2095
Darnell, Wayne L. (JSR, EN; see Lundstrom, Reginald R.)
Darwell, H. M. and Trubridge, G. F. P. Design of rocket nozzles to reduce gas misalignment (JSR) 36
Dasarathy, B. V. and Srinivasan, P. Study of a class of nonlinear systems (AIAA J, TN) 736
——**and Srinivasan, P.** Class of nonlinear third-order systems reducible to equivalent linear systems (AIAA J, TN) 1400
Daubin, Scott C. Deep ocean work boat (DOWB), an advanced deep submergence vehicle (JH, Vol. 2) 40
Dauerman, L. and Tajima, Y. A. Solid-phase reactions of a double-base propellant (AIAA J) 678
——**and Salser, G. E.** Role of the emulsifying agent in PBAA composite propellants (AIAA J, TN) 725
——**and Tajima, Y. A.** Thermal decomposition and combustion of nitrocellulose (AIAA J) 1468
——(AIAA J, TN; see Ray, A. B.)
Daum, Fred L. and Gyarmathy, George. Condensation of air and nitrogen in hypersonic wind tunnels (AIAA J) 458
Davenport, Robert A. Flowfield around moving gas clouds in the upper atmosphere (AIAA J, TN) 1819
Davin, D. E. (JSR; see Schulte, L. O.)
Davis, Donald R. (AIAA J, TN; see Blitzer, Leon)
Davis, Hugh I. (JH, Vol. 1; see Hatte, Ross)
Davis, John W. A high Reynolds number wind tunnel and its operating concept (JSR, EN) 1225
Davis, K. S. (JSR; see Chu, S. T.)
Davis, L. J. (AIAA J; see Denzel, D. L.)
Davis, Lorin R. Experimental and theoretical determination of flow properties in a reacting near wake (AIAA J) 843
Davis, William G. (JSR; see Warren, Carlos S.)
Davison, W. Richard and Sadowski, Thomas J. Water-augmented turbofan engine (JH, Vol. 2) 14
Daybelge, U. (AIAA J; see Kruger, C. H.)
Dayman, B., Jr. and Kurtz, D. W. Forebody effects on drogue drag in supersonic flow (JSR) 1335
DeBra, D. B. (JSR; see Bowers, J. L.)
——**Mathiesen, James C., and Van Patten, Richard A.** A precision, active, table-leveling system (JSR) 1040
Deerwester, Jerry M. Analysis of relative velocity vectors in the asteroid belt (JSR, EN) 859
DeGrace, L. G. Development of a spark ignition system for a ramjet missile (JSR) 1325
DeHoff, Paul H. A note on the nonlinear viscoelastic behavior of polymers (AIAA J, TN) 956
Dehority, George L. and Mathes, H. B. Acoustic response function equation for a T-burner with high heat loss (AIAA J, TN) 741
Delao, Martin. Some experimental results of tests of a low-speed, waterjet propulsion system (JH, Vol. 1) 97
Demetriades, Anthony. Mean-flow measurements in an axisymmetric compressible turbulent wake (AIAA J) 432
Demetriades, S. T. (AIAA J, TN, see Lackner, K.)
de Montardy, A. and Pericart, J. Electrical performance of a duct with segmented electrodes under various conditions (AIAA J) 1633
Denzel, D. L., Davis, L. J., Wu, Y. C. L., Muehlhauser, J., Taylor, R. E., Oliver, R. H., and Dicks, J. B. Experimental study of diagonal conducting wall generators using solid propellants (AIAA J) 1647
——(AIAA J; see Wu, Y. C. L.)
Deprit, Andre and Rom, Arnold. Poincaré's continuation by computers (AIAA J) 1234
de Sulima, Trella H. (AIAA J, TN; see Blitzer, Leon)
Dethlefsen, Rolf. (AIAA J; see Kerrebrock, Jack L.)
——Performance measurements on a pulsed vacuum arc thruster (AIAA J, TN) 1197
Devan, Leroy. Approximate solution of the compressible laminar boundary-layer equations (AIAA J, TN) 2010
Devereux, William P. (AIAA J; see Moskowitz, Saul)
DeZuccoli, Sergio. Behavior of the incidence of an accelerated missile with locked controls (JSR, EN) 1347
Dhanak, A. M. (AIAA J; see Hassan, S. A.)
Dickerson, William D. and Smith, David B. Trajectory optimization for solar-electric powered vehicles (JSR) 889
Dickey, Robert R. (AIAA J; see Lundell, John H.)
Dickinson, Lionel A., Amster, A. B., and Capener, E. L. Application of trioxygen difluoride in liquid-rocket-propellant technology (JSR) 1329
Dicks, J. B. (AIAA J; see Denzel, D. L.)
——(AIAA J; see Wu, Y. C. L.)
——(AIAA J; see Powers, Walter L.)
DiCristina, V. (AIAA J; see Bishop, W. M.)
Dillon, T. R. (JSR; see Sohl, Gordon)
Dionne, J. G. G. (AIAA J, TN; see Tardif, L.)
Dispaux, Jean-Claude. (AIAA J; see Sibulkin, Merwin)
Dixon, Sidney C., Weeks, George E., and Anderson, Melvin S. Effect of edge restraint coupling on buckling of ring-supported cylinders (AIAA J, TN) 1602
Djordjević, V. (AIAA J, TN; see Saljnikov, V.)
Dodds, J. Ian. (JSR; see McCarthy, J. F., Jr.)
Dohner, C. V. (JSR; see Brunner, M. J.)
Doll, John R. Earth-orbit masses for five-impulse Mars stopover missions in 1980 (JSR) 517
Dolton, T. A. (AIAA J; see Schneider, P. J.)
Dosanjh, Darshan S. (AIAA J, TN; see Sheeran, William J.)
Douglas, George W. and O'Loughlin, John R. Studies of combustion efficiency and flame shape for opposed-jet flameholders (AIAA J) 672
Douglass, D. A. (JSR; see Boorady, F. A.)
Dowell, E. H. Theoretical-experimental correlation of plate flutter boundaries at low supersonic speeds (AIAA J, TN) 1810
Dransfield, P. and Bruce, D. M. Leakage flowrate past pistons of oil hydraulic system components (JA) 153
Draper, James Stark (JSR, EN; see Hill, Jacques A. F.)
Drew, C. M. (AIAA J, SA; see Gordon, A. S.)
Dugan, Duane W. (JSR; see Mascy, Alfred C.)
Dugger, Gordon L. On diversity and adversity (JSR) 1
Duhan, Daniel P. (AIAA J, TN; see Benenson, David M.)
Dunn, J. C. and Sobierajski, F. An explicit closed-loop controller for gravity turn landing maneuvers (AIAA J, TN) 2424
Dunn, Michael G. (AIAA J, TN; see Kang, Sang-Wook)
Durelli, A. J. (AIAA J, TN; see Parks, V. J.)
——**Parks, Vincent J. and Lee, Han-Chow.** Stress concentrations around elliptical perforations in shrunk plates with bonded boundaries (JSR, EN) 1499
Durfee, Robert L. and Maček, Andrej. Generation and measurement of high-amplitude square shocks in solids (AIAA J, TN) 977
Durieu, J. and Genin, Y. Determination of an orbit from only three angular measurements (AIAA J, TN) 1432
Dworschak, J. R. and Brandmaier, H. E. MHD power generation using an rf-generated nonequilibrium plasma (AIAA J, TN) 2021
Dwyer, Harry A. Solution of a three-dimensional boundary-layer flow with separation (AIAA J) 1336
——Calculation of unsteady leading-edge boundary layers (AIAA J, (TN) 2147
Dyhouse, Gary R. Martian sand and dust storms and effects on spacecraft coatings (JSR, EN) 473
Eades, James B., Jr. Accessibility ellipse and minimum energy trajectories (AIAA J, TN) 2213
East, R. A. (AIAA J, TN; see Wilkinson, P. R.)
Eastep, F. E. (AIAA J, TN; see McIntosh, S. C.)
Eckbreth, A. C., Clark, K. E., and Jahn, R. G. Current pattern stabilization in pulsed plasma accelerators (AIAA J) 2125
Eckert, E. R. G. (AIAA J; see Wutzke, S. A.)
——(AIAA J; see Shih, K. T.)
——(AIAA J, TC; see Wutzke, S. A.)
Edenborough, H. Kipling. Investigation of tilt-rotor VTOL aircraft rotor-pylon stability (JA) 97
Edinger, Lester D. Design of elastic mode suppression systems for ride quality improvement (JA) 161
Edney, Barry E. Effects of shock impingement on the heat transfer around blunt bodies (AIAA J) 15
Edwards, D. H. (AIAA J; see Bull, D. C.)
Egle, D. M. and Sewall, J. L. An analysis of free vibration of orthogonally stiffened cylindrical shells with stiffeners treated as discrete elements (AIAA J) 518
Ehlers, F. Edward. Pressure oscillations produced in a wind tunnel by hinged plates in the walls of the test section (AIAA J, TN) 2436
Eichel, Donald A. (JSR, EN; see Cassanto, John M.)
Eichler, J. A performance study of the lunar module's landing radar system (JSR) 1016
Eilers, R. E. (AIAA J, TN; see Chow, W. L.)
Ellen, C. H. Influence of structural damping on panel flutter (AIAA J) 2169
Ellinwood, J. W. (AIAA J; see Mirels, H.)
Elliott, D. G. (AIAA J; see Cerini, Donald J.)
——Variable-velocity MHD induction generator with rotating-machine internal electrical efficiency (AIAA J) 1695
Elliott, G. A. (AIAA J, TN; see Smith, R. C.)
——(JSR, see Hankey, W. L.)
Elliott, Jarrell R. and Rau, Timothy, R. Optimal payload trajectory characteristics for horizontally launched booster vehicle (JSR, EN) 218
Ellsworth, William M. U. S. Navy hydrofoil craft (JH, Vol. 1) 66
Elsey, J. C. and Carlson, G. E. Inertial navigation errors for a lifting re-entry vehicle (JSR, EN) 604
Elwell, R. B., Irwin, O. R., Salzman, P. K., and Valor, N. H. Recent progress in evaluating the detonation characteristics of solid-composite propellant (AIAA J) 489
Elzinga, D. Jack and Thodos, George. Predicted thermal conductivity: Gaseous and liquid para-hydrogen (JSR, EN) 868
Emergy, James C. (AIAA J, TN; see Keyes, J. Wayne)
Emme, Eugene M. Historical perspectives on Apollo (JSR, SA) 369
Emond, A. (AIAA J, TN; see Heckman, D.)
Eney, John A. Navy variable-stability studies of longitudinal handling qualities (JA) 271
Eppes, Richard, Jr. Reply by author to H. J. Breaux (AIAA J, TC) 1822
Epstein, Melvin. Effect of incomplete energy accommodation on free molecule recovery temperature (AIAA J, TN) 972
Erasian, Arsev H. (JH, Vol. 2, EN; see Kim, Kun Ha)
Erdman, Carl A., Courtney, W. J., and Gilligan, J. E. Iso-irradiance contours 3 to 5 cm from an A-H6 mercury arc lamp (JSR, EN) 229
Ericsson, Lars Eric. Unsteady aerodynamics of an ablating flared body of revolution including effect of entropy gradient (AIAA J) 2395
Estes, R. H. (AIAA J, TN; see Lancaster, E. R.)
Eulitz, Werner R. (JSR; see Kana, Daniel D.)
Eusanio, E. (JSR; see Pisciotta, A., Jr.)
Eustis, R. H. (AIAA J; see Kessler, R.)
Evanbar, M. S. (JH, Vol. 2; see Thurston, S.)
Evans, Larry G. (AIAA J, TN; see Kentzer, Czeslaw P.)
Evans, Norman A. Steady-state, controlled-discharge, linear nonequilibrium magnetogasdynamic generator (AIAA J) 394
Evensen, David A. and Olson, Mervyn D. Circumferentially traveling wave flutter of a circular cylindrical shell (AIAA J) 1522
——Nonlinear vibrations of beams with various boundary conditions (AIAA J, TN) 370
——Nonlinear vibrations of an infinitely long cylindrical shell (AIAA J, TN) 1401
Eversman, Walter. Transverse vibrations of a clamped spinning membrane (AIAA J, TN) 1395

Evvard, John C. Serrated walls for low Mach number supersonic wind tunnels (AIAA J, TN) ... 985

Faeth, G. M., Karhan, B. L., and Yanyecic, G. A. Ignition and combustion of monopropellant drops (AIAA J) ... 684

Fahimian, Edward J. (AIAA J; see Sarofim, Adel F.)

Falco, Robert. (AIAA J, TN; see Rubin, Stanley G.)

Fan, D. N. and Ludford, G. S. S. Correct formulation of airfoil problems in magnetoaerodynamics (AIAA J, TN) ... 167

Fang, Bertrand T. Energy considerations for attitude stability of dual-spin spacecraft (JSR, EN) ... 1241

Fannelop, Torstein K. A method of solving the three-dimensional laminar boundary-layer equations with application to a lifting reentry body (AIAA J) ... 1075

Farrar, Richard B. High-density fuel to extend range of ramjet missile (JSR, EN) ... 1364

Farrell, James L. (JSR; see Newton, James K.)

Faulders, C. R., Lekawa, E. R., and McNary, R. L. Aerodynamics requirements for flare and landing of low-L/D glide vehicles (JSR) .. 915

Fearn, R. F. (JSR, EN; see Bailey, T. E.)

Feitis, Peter H. Data return advantages of Earth-Mars-Earth trajectories (JSR) ... 390

Feld, Denis J. Steering control of skid-equipped horizontally landing spacecraft (JSR, EN) ... 1103

Felderman, E. J. Heat transfer and shear stress in the shock-induced unsteady boundary layer on a flat plate (AIAA J) ... 408

Feldman, Julius (JSR; (see Miller, John E.)

Felton, Lewis P. and Hofmeister, Lawrence D. Optimized components in truss synthesis (AIAA J, TN) ... 2434

Feltz, L. V. (JSR; see Rigali, D. J.)

Fendell, Francis E. Decompositional burning of a droplet in a small Peclet number flow (AIAA J) ... 1946

——**Coats, D. E., and Smith, E. B.** Compressible slow viscous flow past a vaporizing droplet (AIAA J) ... 1953

——**and Solomon, Louis.** Comment on "Similarity analysis for multicomponent, free convection" (AIAA J, TC) ... 988

Feng, T. Y. and Wasynczuk, C. A. Terminal guidance for soft and accurate lunar landing for unmanned spacecraft (JSR) ... 644

Fernandez, Frank L. (AIAA J; see Kubota, Toshi)

——(AIAA J, TC; see Kubota, Toshi)

Ferri, A. Review of SCRAMJET propulsion technology (JA, SA) .. 3

Filho, Fernando Venâncio. Comment on "Computation of stress resultants from the element stiffness matrices" (AIAA J, TC) 571

Fine, A. D. Reply by author to H. M. Haydl (AIAA J, TC) ... 2463

Finkleman, D. and Chien, K. Y. Semigrey radiative transfer (AIAA J, TN) ... 755

——Comment on "Nonadiabatic temperature distributions behind detached shock" (AIAA J, TC) ... 2237

Firebaugh, John M. Estimation of taxi load exceedances using power spectral methods (JA, EN) ... 507

Fischer, Fred W. Experimental investigation of the current density distribution in a simulated MHD generator (AIAA J) ... 894

Fischer, J. N. (JA; see Brown, E. L.)

Fischler, Jerome E. Supercritical flow effects on some unsteady aerodynamic coefficients used for flutter analysis (JA) ... 555

Fishman, Norman. Reply by author to J. Pantoficek and F. Lébr (AIAA J, TC) ... 1436

Fitzpatrick, Philip M. (AIAA J; see Crenshaw, Jack W.)

Flandro, G. A. Solar electric low-thrust missions to Jupiter with swingby continuation to the outer planets (JSR) ... 1029

Fletcher, R. F. (AIAA J; see Simmons, J. A.)

——Liquid-propellant explosions (JSR, EN) ... 1227

Flood, Donald T. (JSR, EN; see Schaefer, John W.)

Florence, A. L. Buckling of viscoplastic cylindrical shells due to impulsive loading (AIAA J) ... 532

Florence, D. E. (JSR; see Hiltz, A. A.)

Florio, Francis A. and Hobbs, Robert B., Jr. An analytical representation of temperature distributions in gravity gradient rods (AIAA J) ... 99

——**and Josloff, A. T.** Thermo/structural analysis of a large flexible paraboloid antenna (JSR) ... 1417

Folkman, N. R. and Lee, T. G. Thermodynamic design fundamentals of high-performance insulation (JSR) ... 954

Fonda-Bonardi, Giusto and Buckley, C. Peter. Design of an articulated, 1-Atm. undersea suit (JH, Vol. 1, EN) ... 114

——(AIAA J, TN; see Sagartz, Mathias J.)

Fontijn, Arthur. (AIAA J; see Pergament, Harold S.)

Ford, Allen G. Captured air bubble (CAB) vehicle progress report (JH, Vol. 2) ... 81

Forrestal, Michael J. (AIAA J; see Alzheimer, W. E.)

——**Alzheimer, William E., and Schmitt, Heinz W.** Thermally induced membrane stress in a circular elastic cell (AIAA J, TN) 946

——(AIAA J, TN; see Sagartz, Mathias J.)

——**and Alzheimer, William E.** Dynamic response of a circular elastic shell to circumferentially moving forces (AIAA J, TN) ... 2231

——Errata: "Thermally induced membrane stress in a circular elastic shell" (AIAA J, TC) ... 2464

Fosdick, George E. and Cary, Robert C. Study results pertaining to selection and evaluation of a multipurpose satellite (JSR) ... 821

Fosnight, V. V., Sohl, G., Goldner, S. J., and Speiser, R. C. Cesium ion engine system life test results (JSR, EN) ... 465

Fowler, W. T. (AIAA J, TN; see Williamson, W. E.)

Fox, Jay. Space correlation measurements in the fluctuating turbulent wakes behind projectiles (AIAA J) ... 233

Fox, H. (AIAA J, TN; see Zakkay, V.)

Fox, R. L. (AIAA J; see Schmit, L. A.)

——**and Stanton, E. L.** Developments in structural analysis by direct energy minimization (AIAA J) ... 1036

——**and Kapoor, M. P.** Rates of change of eigenvalues and eigenvectors (AIAA J, TN) ... 2426

Frankenthal, Shimshon. Performance of thermochemically driven MHD converters (AIAA J) ... 993

Franklin, Harold G. Corrugated shells of revolution (AIAA J, TN) .. 1152

——**and Kicher, T. P.** Stresses in laminated composite cylinders (AIAA J, TN) ... 2208

Franklin, James A. (JA; see Miller, George E.)

Fraser, Donald C. (AIAA J, TC; see Potter, James E.)

French, Francis W. (JSR; see Levy, Richard H.)

French, Terry B. (AIAA J, TC; see Gunness, Robert C., Jr.)

Freudenthal, Alfred M. Temperature and shrinkage stresses in orthotropic cylinder bonded to a rigid case (AIAA J, TN) ... 376

Frey, Henry M. (JSR, see Quan, Victor)

Friedman, H. A. and McFarland, B. L. Two-dimensional transient ablation and heat conduction analysis for multimaterial thrust chamber walls (JSR) ... 753

Frost, Milton A., III and Wierum, Frederic A., Jr. Spectroscopic study of excited states in an argon plasma (AIAA J, TN) ... 2043

Frumkin, Barnett. System effectiveness through interchangeability (JSR, EN) ... 338

Fuhs, Allen E. Correction to Tsien's listing of ideal gas flow (AIAA J, TC) ... 1632

Fuller, J. R. A procedure for evaluating the spacewise variations of continuous turbulence on airplane responses (JA) ... 49

Gabbert, C. H. Comment on "Similarity analyses via group theory" (AIAA J, TC) ... 2047

Gabron, F. (JSR, EN; see Nathanson, D.)

Gaggioli, R. A. (AIAA J, TN; see Moran, M. J.)

Gallagher, H. E. and Knauer, W. Thermionic cathodes for Kaufman thrusters (JSR, EN) ... 730

Gallagher, L. W. (JSR; see Coleman, W. D.)

Garber, Vitalij. Optimum intercept laws for accelerating targets (AIAA J, TN) ... 2196

Gardner, J. A., Manring, E. R., and Patty, R. R. Minimum detectable limit of lithium in the upper atmosphere (AIAA J) ... 1997

——Effects of a dynamic gas on breakdown potential (AIAA J, TN) .. 1414

Garrison, G. W. Electrical conductivity of a seeded nitrogen plasma (AIAA J) ... 1264

Garry, F. W. Impact of air-breathing propulsion system developments on test facilities (JA, EN) ... 414

Gasparotto, M. (AIAA J; see Bertolini, E.)

Gault, J. D. and Gunter, D. E., Jr. Atmospheric turbulence considerations for future aircraft designed to operate at low altitudes (JA) ... 574

Gay, P. (AIAA J; see Bertolini, E.)

Geister, D. E. (AIAA J, TN; see Siebert, L. D.)

Geller, Raymond E. Oxygen safety—submarine to aircraft (JA) ... 584

George, Oscar L., Jr. and Whitfield, Jack D. An extended correlation of hypersonic conical normal force data to large incidence (AIAA J, TN) ... 1771

Genin, Y. (AIAA J, TN; see Durieu, J.)

Gerard, George. Structural guidelines for materials development: Some vehicle performance and design generalizations (JA) ... 564

Gerlach, C. Richard. Surface disintegration of liquid in longitudinally excited containers (JSR) ... 553

Gey, F. C. (AIAA J; see Kiel, R. E.)

Ghorai, S. C. A method for predicting aerodynamic characteristics of slender lifting re-entry vehicles at low speeds (JSR, EN) ... 619

Gibson, C. H., Chen, C. C., and Lin, S. C. Measurements of turbulent velocity and temperature fluctuations in the wake of a sphere (AIAA J) ... 642

Gibson, Frank C. (AIAA J; see Ribovich, John)

Gibson, Robert N., Jr. (JSR, see Cygnarowicz, Thomas A.)

Giesing, Joseph P. Nonlinear two-dimensional unsteady potential flow with lift (JA) ... 135

Gift, R. D. (AIAA J; see Simmons, J. A.)

Gilchrist, James D. and Soland, Duane E. A manual optimal guidance scheme using a predictive model (JSR) ... 1181

Giles, W. B. Similarity laws of friction-reduced flows (JH, Vol. 2) .. 34

Gilles, Scott E. (AIAA J, TN; see Cogley, Allen C.)

Gillette, Roger B. Proton and ultraviolet radiation effects on solar mirror reflective surfaces (JSR) ... 454

Gilligan, J. E. (JSR, EN; see Erdman, Carl A.)

Gimmestad, David. (JA, EN; see Hogley, John)

Ginsberg, Lawrence J. (JSR; see Kelley, James H.)

Glaser, Rudolph F. (JSR; see Kana, Daniel D.)

Glass, David R. Effects of acoustic feedback on the spread and decay of supersonic jets (AIAA J) ... 1890

Gleich, David and L'Hommedieu, Fred. Metallic bladders for cryogenic fluid storage and expulsion systems (JSR) ... 1057

Godwin, Thomas W. (JSR; see Tomazic, William A.)

Goin, Kennith L. and Lawrence, W. R. Subsonic drag of spheres at Reynolds numbers from 200 to 10,000 (AIAA J, TN) ... 961

Goldberg, Theodore J. (AIAA J, TN; see Keyes, J. Wayne)

Goldin, D. S. (JSR; see Huberman, M. N.)

Goldman, Richard. (AIAA J, TN; see Papirno, Ralph)

Goldman, R. L., Morkovin, M. V., and Schumacher, R. N. Unsteady control surface loads of lifting re-entry vehicles at very high speeds (AIAA J) ... 44

Goldner, S. J. (JSR, EN; see Fosnight, V. V.)

Goldschmied, F. R. Integrated hull design, boundary-layer control, and propulsion of submerged bodies (JH, Vol. 1) ... 2

——Underwater hovering control with fluidic amplifiers (JH, Vol. 2) 102

Goldstein, Ernst M. Plasma arc testing of hypervelocity materials (JSR, EN) ... 1232

Goldstein, S. E. and Alvarado, U. R. High-fidelity underwater simulation of manned space activities (JSR) ... 595

Golobic, Robert A. and Nerem, Robert M. Shock-tube measurements of end-wall radiative heat transfer in air (AIAA J) ... 1741

Goode, Maxwell W. and Person, Lee H., Jr. Flight test evaluation of a small one-man lunar flying device (JSR) ... 1468

Gooderum, Paul B. (JSR, EN; see Bushnell, Dennis M.)

Goodman, Charles H. (AIAA J, TC; see Webb, George R.)

Goodman, Malcolm A. (AIAA J, TC; see Webb, George R.)

Gopdman, Theodore R. (JH, Vol. 1; see Kaplan, Paul)

Gopalacharyulu, S. A variational method for the end problem of rectangular strips (AIAA J, TN) ... 1157
Gordon, A. S., Drew, C. M., Prentice, J. L., and Knipe, R. H. Techniques for the study of the combustion of metals (AIAA J; SA) ... 577
Gordon, Paul. (AIAA J; see Scala, Sinclaire M.)
Gorham, J. A. (JA; see Magruder, W. M.)
Gottschlich, Chad F. (AIAA J; see Chu, T. K.)
Gourdine, Meredith C. (AIAA J; see Collier, Edward L.)
Graesser, E. C. (AIAA J; see Horton, M. D.)
Grasshoff, Lynn H. An onboard, closed-loop, nutation control system for a spin-stabilized spacecraft (JSR) ... 530
Gray, Kenneth O. Laboratory simulation of the deep-ocean environment (JH, Vol. 1) ... 54
Grayzel, A. I. (JSR, EN; see Parker, D.)
Greber, Isaac. (AIAA J; see Lindow, Bruce)
Greenblatt, Marshal. Collisionless plasma flow over a wedge (AIAA J, TN) ... 2019
Greene, Robert H. Maneuverable geodetic satellites in resonant orbits (JSR) ... 497
Greif, Robert. (AIAA J; see Chou, Shun-Chin.)
Grenleshi, Stephen E. and Billig, Frederick S. Investigation of an actively cooled leading edge for hypersonic ramjet engines (JA) ... 359
Griffith, B. J. and Boylan, D. E. Postflight Apollo command module aerodynamic simulation tests (JSR) ... 843
——(AIAA J, TN; see Little, Herbert R.)
Groeneweg, John F. (AIAA J, TN; see Heidmann, Marcus F.)
Guile, A. E., Naylor, K. A., and Hodnett, P. F. Comment on "A source model for predicting the drag force on a moving arc column" (AIAA J, TC) ... 190
Gula, William P. (JSR; see Staggs, John F.)
Guman, William J. and Peko, Paul E. Solid-propellant pulsed plasma microthruster studies (JSR, EN) ... 732
Gundersen, Norman A. Princeton experiment package for OAO-C (JSR) ... 383
Gunness, Robert C., Jr. and French, Terry B. Comment on "Numerical solution of the boundary-layer equations" (AIAA J, TC) ... 190
Gunter, D. E., Jr. (JA; see Gault, J. D.)
Gupta, A. S. and Chatterji, A. S. Flow of a compressible radiating fluid past an infinite plate with suction (AIAA J, TN) ... 2209
Gustafson, W. A. (AIAA J; see Kiel, R. E.)
Gyarmathy, George. (AIAA J; see Daum, Fred L.)
Haas, John. (JA; see Theisen, Jerome G.)
Hackett, Robert M. Viscoelastic stress distribution in a two-phase composite material model (AIAA J, TN) ... 2442
Heckman, E. E., III and Beachell, H. C. Combustion characteristics of crystalline oxidizers (AIAA J, TN) ... 561
Haft, Everett E. (AIAA J, TN; see Smith, Bert L.)
Haines, M. G. and McNab, I. R. Observations of large nonequilibrium conductivity in a closed-cycle MPD channel with applied electric and magnetic fields (AIAA J) ... 1679
Haisler, Walter E. (AIAA J; see Stricklin, James A.)
Halda, E. J. (AIAA J; see Riney, T. D.)
Haldeman, Charles W. (AIAA J, TN; see Boedeker, Laurence R.)
Hall, Charles R., Jr. (JSR, EN; see Mueller, Thomas J.)
Hall, David B. (AIAA J, TN; see Kaufman, Stanley)
——(AIAA J, TN; see Swanson, Carl J.)
Hall, Douglas G. (JSR, EN; see Waltrup, Paul J.)
Hallauer, W. L., Jr. (AIAA J, TN; see Rehfield, L. W.)
Hallendorff, R. H. (JSR; see Weckesser, L. B.)
Ham, Norman D. Aerodynamic loading on a two-dimensional airfoil during dynamic stall (AIAA J) ... 1927
Hama, Francis R. Experimental studies on the lip shock (AIAA J) ... 212
Hamaker, Frank M. (JSR; see Lohr, Jerome J.)
Hammack, J. B. and Stonesifer, J. C. Safety in recovery of Apollo spacecraft (JSR, EN) ... 484
Hammer, Willie. Progressive qualitative hazard analyses (JSR, EN) 343
Hammitt, A. G. A new formulation of the thermodynamic limits on the performance of chemical and nuclear engines (JSR) ... 276
Handelsman, M. (AIAA J; see Lion, P. M.)
Hankey, W. L. and Elliott, G. A. Hypersonic lifting body optimization (JSR) ... 1463
Hanley, G. M. (JSR; see McCarthy, J. F., Jr.)
Hanson, James N. Comparison of two optimizations of a nonlinear boundary-value problem (AIAA J) ... 1979
——Time optimal control for interplanetary flight by dynamic programming (AIAA J, TN) ... 2202
Harbour, P. J. (AIAA J; see Lord, R. G.)
Harder, R. L. (AIAA J, TN; see Cann, G. L.)
Harding, John T. and Lawson, Donald B. Superconducting gyroscope: Drift data and mathematical model (AIAA J) ... 305
Harkness, J. (AIAA J; see Wells, C. S., Jr.)
Harper, Charles W. Prospects in aeronautics research and development (JA) ... 417
Harper, Edward Y. (JSR, EN; see Hurd, Stanley E.)
Harpur, N. F. Concorde structural development (JA) ... 176
Harris, Clarence J. Comment on "Feasibility of a high-performance aerodynamic impulse facility" (AIAA J, TC) ... 1439
Harris, Herbert J. Thermal response of a rotating isothermal plate in space (JSR, EN) ... 340
Harrison, Edwin F. (JSR; see Pritchard, E. Brian)
——(JSR, EN; see Pritchard, E. Brian)
Hart, Humes H. Effect of supersonic interference on lateral stability of low-aspect-ratio missiles in combined pitch and yaw (JSR) ... 1457
Hartley, D. L. (AIAA J, TN; see Huang, A. B.)
Hartmann, A. Theory and test of flow mixing for turbofan engines (JA) ... 522
Hartnett, J. P. (AIAA J; see Taitel, Yehuda)
——(AIAA J; see Laganelli, A. L.)
Hart-Smith, L. J. Comments on "Some recent advances in the investigation of shell buckling" (AIAA J, TC) ... 2459
Hasinger, Siegfried H. An experiment with particles in a free vortex (AIAA J, TN) ... 939
Hassan, H. A. (AIAA J; see Seals, R. K., Jr.)
Hassan, S. A., Dhanak, A. M., and Buelow, F. H. A study of radiation properties of oxide-metal composites (AIAA J) ... 1126
Hattie, Ross and Davis, Hugh J. Selection of hydrofoil waterjet propulsion systems (JH, Vol. 1) ... 12
Hauger, H. H., Cleeves, V. F., and Perlee, J. S. DC-9 environmental control design and first year's service experiences (JA) ... 64
Hauptmann, E. G. Angle factors between a small flat plate and a diffusely radiating sphere (AIAA J, TN) ... 938
Haydl, H. M. Buckling of doubly curved shallow thin shells (AIAA J, TN) ... 982
——Comment on "A stress-strain approximation in plasticity" (AIAA J, TC) ... 2463
Hayes, W. D. (AIAA J, TC; see Bogdonoff, S. M.)
Hazell, J. F., Cope, P. E. G., and Walker, I. F. M. Development and operation of the stabilized skylark rocket (JSR) ... 425
Hazelrigg, George A., Jr. Optimal space flight with multiple propulsion systems(JSR, EN) ... 1233
Healy, Gerald J. (JA; see Shapiro, Nathan)
Hearne, L. F. (JSR; see Coleman, W. D.)
Heckman, D., Cantin, A., Emond, A., and Kirkpatrick, A. Convection velocity measurements in hypersonic sphere wakes (AIAA J, TN) ... 750
Heideman, John C. Use of the method of particular solutions in quasilinearization (AIAA J, TN) ... 2456
Heidmann, Marcus F. and Groeneweg, John F. Dynamic response of liquid jet breakup (AIAA J, TN) ... 2033
Heinisch, R. P. and Viskanta, R. Transient combined conduction-radiation in an optically thick semi-infinite medium (AIAA J, TN) ... 1409
Helliwell, Thomas M. (AIAA J; see Menard, Wesley A.)
Hemann, J. H. (AIAA J, TN; see Achenbach, J. D.)
Hendershot, K. C. (JSR, EN; see Sheeran, W. J.)
Henderson, A., Jr. (JSR; see Woods, W. C.)
——(AIAA J, TN; see Maddalon, Dal V.)
——(AIAA J, see Maddalon, Dal V.)
Hendricks, C. D., Jr. (AIAA J; see Pfeifer, Robert J.)
——(AIAA J, TN; see Swatik, Donald S.)
Henning, Allen B. (JSR, EN; see Lundstrom, Reginald R.)
Henrikson, L. J. (JSR; see Bryson, A. E., Jr.)
Hering, R. G. Radiative heat exchange and equilibrium surface temperature in a space environment (JSR) ... 47
——**and Bobco, R. P.** A second-order approximation for local radiant flux and temperature in semigray nondiffuse enclosures (JSR) ... 1271
Herrmann, G. (AIAA J; see Achenbach, J. D.)
——(AIAA J, TN; see Krajcinovic, Dusan P.)
Herrmann, L. R. and Campbell, D. M. A finite-element analysis for thin shells (AIAA J) ... 1842
Herron, R. D. Jet-boundary simulation parameters for underexpanded jets in a quiescent atmosphere (JSR) ... 1155
Hertzberg, A. (AIAA J, TN; see Lordi, J. A.)
Hertzler, R. G. and Burke, A. G., III. A gimbal system for solar simulation testing (JSR, EN) ... 476
Herzog, B. (JA; see Coons, S. A.)
Hewko, Lubomyr O. Roller traction drive unit for extremely quiet power transmission (JH, Vol. 2) ... 160
Heywood, J. B. (AIAA J; see Carter, C.)
Hicks, Claiborne R., Jr. (JSR, see Huss, Carl R.)
Hill, D. E. (AIAA J; see Hopkins, D. F.)
——(AIAA J; see Catton, I.)
Hill, Jacques A. F., Draper, James Stark, and Jarvinen, Philip O. Velocity effects on a body passing through a rocket plume (JSR, EN) ... 486
Hill, John Carroll. An empirical expression for drag coefficients of cones at supersonic speeds (AIAA J, TN) ... 165
Hill, Maynard L. Materials for small radius leading edges for hypersonic vehicles (JSR) ... 55
——(JSR, EN; see Weiss, R. O.)
Hill, William G., Jr. A convenient, explicit formula for oblique-shock calculations (JA, EN) ... 509
Hiltz, A. A., Florence, D. E., and Lowe, D. L. Thermal protection systems for a Mars-entry vehicle (JSR) ... 1278
Hingst, W. R. Motion of an electric arc in a transverse magnetic field (AIAA J, TN) ... 2016
Hirsch, Irving A. Prediction of the seakeeping characteristics of hydrofoil ships (JH, Vol. 2) ... 8
Hobbs, Robert B., Jr. (AIAA J; see Florio, Francis A.)
Hodgson, R. T. (AIAA J; see Brederlow, G.)
Hodnett, P. F. (AIAA J, TC; see Guile, A. E.)
Hoell, J. M. and Brooks, D. R. Distribution of plasma potential for an MPD thruster (AIAA J, TN) ... 723
Hofer, E. and Sagirow, P. Optimal systems depending on parameters (AIAA J, TN) ... 953
Hoffman, Myron A. (AIAA J; see Bertolini, E.)
——Nonequilibrium MHD-generator losses due to wall and insulator boundary-layer leakages (AIAA J) ... 1667
Hofmeister, Lawrence D. (AIAA J, TN; see Felton, Lewis P.)
Hogley, John and Gimmestad, David. The spadoryc—a method of determining damping (JA, EN) ... 607
Holgate, T. (JA; see Roskam, J.)
Hollander, Tj. Photometric measurements on the deviations from the equilibrium state in flames(AIAA J, SA) ... 385
Holloway, Paul F. Entry maneuvers for large lateral and small longitudinal range (JSR, EN) ... 745
Holston, A., Jr. Buckling of inhomogeneous anisotropic cylindrical shells by bending (AIAA J) ... 1837
——Buckling of filament-wound cylinders by axial compression (AIAA J, TN) ... 935
Holt, J. F. (AIAA J; see Chung, P. M.)
Holt, M. (AIAA J, TN; see Crawford, D. R.)
Hopkins, D. F. and Hill, D. E. Transonic flow in unconventional nozzles (AIAA J) ... 838
Hopkins, Edward J. and Keener, Earl R. Unit Reynolds number effects on boundary-layer transition at Mach 6 (AIAA J, TN) ... 956

Hopkins, Harold B. (JSR; see Leng, Jarvis)

Hopkins, Richard A. and Nerem, Robert M. An experimental investigation of heat transfer from a highly cooled turbulent boundary layer (AIAA J) 1912

Horn, K. P. (AIAA J; see Kolpin, M. A.)

Horowitz, J. M. (AIAA J; see Nevill, G. E., Jr.)

Horstman, C. C. and Kussoy, M. I. Hypersonic viscous interaction on slender cones (AIAA J) 2364

Horton, M. D., Bruno, P. S., and Graesser, E. C. Depressurization induced extinction of burning solid propellant (AIAA J) 292

Hoshizaki, H. and Lasher, L. E. Convective and radiative heat transfer to an ablating body (AIAA J) 1441

Hottel, Hoyt C. (AIAA J; see Sarofim, Adel F.)

Houbolt, John C. Exceedances of structural interaction boundaries for random excitation (AIAA J) 2175

Hoult, C. P. Effect of launch angle on sounding rocket trajectories (JSR, EN) 471

Hovey, R. W. (JSR, EN; see Borchers, K. H.)

Hsu, Chia-Jung. (AIAA J; see Lindauer, George C.)

Hsu, C. T. (AIAA J, TN; see Maillie, F. H.)

Hsu, Y. K. A brief review of supercavitating hydrofoils (JH, Vol. 2) 192

Huang, A. B. and Hartley, D. L. Nonlinear, rarefied Rayleigh's problem (AIAA J, TN) 2023

Huang, Ju-chin. Reply by author to C. V. Smith (AIAA J, TC) ... 574

Huang, N. C., Nachbar, W., and Prager, W. Optimum critical impulse for snap-through in systems of one degree of freedom (AIAA J) 2289

Huang, T. T. Experimental study of a low-modulus flutter strut for a hydrofoil system (JH, Vol. 2) 198

Huber, Paul W. and Hunt, James L. Reynolds number dependence of Apollo near-wake temperature (AIAA J, TN) 184

Huberman, M. N., Beynon, J. C., Cohen, E., Goldin, D. S., Kidd, P. W., and Zafran, S. Present status of colloid microthruster technology (JSR) 1319

Hudgins, Henry E., Jr. (AIAA J; see Taylor, Thomas D.)

Hufferd, W. (AIAA J, TN; see Knauss, W. G.)

Hügel, H. Self-magnetic effect in arcjet engines (AIAA J, TN) 1573

Hunt, James L. (AIAA J, TN; see Huber, Paul W.)

Hunter, H. M. (JSR; see Meissinger, H. F.)

Hurd, Stanley E. and Harper, Edward Y. Liquid propellant stratification with sidewall and bottom heating (JSR, EN) 220

Huss, Carl R., Hicks, Claiborne R., Jr., and Allen, Charlie C. Spaceflight mission design for flight and crew safety (JSR) 711

Hutt, Johnny M. (AIAA J, TN; see Brown, John E.)

Hyman, B. I. Comment on "A note on the general solution of the two-dimensional linear elasticity problem in polar coordinates" (AIAA J, TC) 568

Ibele, W. E. (AIAA J; see Shih, K. T.)

Ii, Jack Morito and Sidwell, Kenneth W. Unsteady aerodynamics and dynamic response of flexible supersonic aircraft to continuous turbulence (JA) 106

Iqbal, M. and Aggarwala, B. D. Solar heating of a long circular cylinder with semigray surface properties (JSR, EN) 1229

Irons, Bruce M. Roundoff criteria in direct stiffness solutions (AIAA J) 1308

Irwin, O. R. (AIAA J; see Elwell, R. B.)

Ishimoto, Takao and Bevans, Jerry T. Method of evaluating $\mathfrak{F}$ variance for thermal variance analysis (AIAA J, TN) 1178

——**and Bevans, Jerry T.** Temperature variance in spacecraft thermal analysis (JSR, EN) 1372

Isley, William C. (JSR; see Viventi, Robert, Jr.)

——Optimal control application for electrothermal multijet systems on synchronous earth spacecraft (JSR) 1444

Jacobson, Marcus J. Stress and deflection of honeycomb panels loaded by spatially uniform white noise (AIAA J) 1503

Jaegly, Robert L. Validation of checkout procedures by computer simulation (JSR, EN) 1003

Jahn, R. G. (AIAA J; see Eckbreth, A. C.)

James, H. K. (JSR, EN; see Perlee, H. E.)

——(JSR, TC; see Perlee, H. E.)

James, Robert N., Babcock, Wayne R., and Seifert, Howard S. A laser-Doppler technique for the measurement of particle velocity (AIAA J, TN) 160

Jansen, J. A. (JSR; see Tutt, G. E.)

Jarvinen, Philip O. (AIAA J, TN; see Luce, Richard W.)

——(JSR, EN; see Hill, Jacques A. F.)

Jaslow, Howard. Aerodynamic relationships inherent in Newtonian impact theory (AIAA J) 608

——Lift and drag of flat-top configurations of arbitrary cross section (AIAA J, TN) 2039

Jeffrey, N. E. Influence of design features on underwater towed system stability (JH, Vol. 2) 205

Jensen, F. R. (JSR; see Chappell, R. N.)

Jett, E. S. (AIAA J; see Wu, Y. C. L.)

Jezewski, D. J. and Rozendaal, H. L. An efficient method for calculating optimal free-space N-impulse trajectories (AIAA J) 2160

Jischke, Martin C. Optically thin stagnation-point flow (AIAA J, TN) 2219

Johnson, Bruce and Barchi, Richard H. Effect of drag-reducing additives on boundary-layer turbulence (JH, Vol. 2) 168

Johnson, Bruce V. (JSR; see Clark, James W.)

Johnson, Conor D. and Bauld, Nelson R., Jr. Dynamic stability of rectangular sandwich plates under pulsating loads (AIAA J, TN) .. 2205

Johnson, Kent R. Effect of dissipative aerodynamic torque on satellite rotation (JSR) 408

Johnson, R. J., Boyd, B. R., and Smith, T. H. Application of the MIRA 150A variable-thrust engine to manned lunar flying systems (JSR, EN) 849

Johnson, R. L. Effect of an electric field on boiling heat transfer (AIAA J) 1456

Johnson, Roger W. Guidance law and impact prediction for interplanetary vehicles (JSR, EN) 1235

Johnston, P. J. (JSR; see Woods, W. C.)

Jones, E. A. Rx craft, a manned model of the RCN hydrofoil ship "Bras d'Or" (JH, Vol. 1) 41

Jones, Jerold W. (AIAA J; see Lundell, John H.)

Jones, Robert A. Wind-tunnel measurements of transition on the face of a blunt entry capsule at angle of attack (AIAA J, TN) 545

——(AIAA J, TN; see Stainback, P. Calvin)

Jones, Robert M. and Klein, Stanley. Equivalence between single-layered and certain multilayered shells (AIAA J) 2295

——Buckling of circular cylindrical shells with multiple orthotropic layers and eccentric stiffeners (AIAA) 2301

——Comment on "A note on the general instability of eccentrically stiffened cylinders" (JA, TC) 192

Josloff, A. T. (JSR; see Florio, F. A.)

Jue, Lawrence S. Design considerations of manned ambient-pressure habitats (JH, Vol. 2) 131

Julius, Anthony L., Jr. (JSR; see McKinzie, Daniel J., Jr.)

Juran, Warren and Stechman, R. Carl. Ignition transients in small hypergolic rockets (JSR) 288

Kahn, Joel F. V/STOL airline system simulation (JA) 306

Kalnins, Arturs. Analysis of curved thin-walled shells of revolution (AIAA J) 584

Kamat, D. V. and Abraham, W. H. Pressure collapse in oxygen storage under zero-g (JSR) 184

Kami, S. (JSR; see King, H. J.)

Kana, Daniel D. and Craig, Roy R., Jr. Parametric oscillations of a longitudinally excited cylindrical shell containing liquid (JSR) 13

——**Glaser, Rudolph F., Eulitz, Werner R., and Abramson, H. Norman.** Longitudinal vibration of spring-supported cylindrical membrane shells containing liquid (JSR) 189

Kane, E. J. Comment on "Sonic booms attributed to subsonic flight" (AIAA J, TC) 379

Kang, Sang-Wook and Dunn, Michael G. Integral method for the stagnation region of a hypersonic viscous shock layer with blowing (AIAA J, TN) 2031

Kao, Jao-Shiun and Ross, Robert J. Bending of multilayer sandwich beams (AIAA J, TN) 1583

Kaplan, Paul, Goodman, Theordore R., and Chen, C. C. A hydrodynamic theory for cavitating delta wing hydrofoils (JH, Vol. 1) .. 81

Kapoor, M. P. (AIAA J, TN; see Fox, R. L.)

Karhan, B. L. (AIAA J; see Faeth, G. M.)

Karplus, Walter J. (JSR, EN; see Stoike, David A.)

Karrenberg, Hans. Optimal thrust direction for maximization of orbital lifetime (JSR, EN) 1370

Kassoy, David R. and Williams, Forman A. Variable property effects on liquid droplet combustion (AIAA J) 1961

——Injection effects in high Prandtl number boundary-layer flows (AIAA J, TN) 1796

Katz, Paul. Comments on "A re-evaluation of jet damping" (JSR, TC) 1246

Kaufman, Larry. (JSR; see Peters, Edward T.)

Kaufman, Stanley and Hall, David B. Reduction of mass and loading matrices (AIAA J, TN) 550

——(AIAA J, TN; see Swanson, Carl J.)

Kawashima, Nobuki and Mori, Sigeru. Experimental study of forces on a body in a magnetized plasma stream (AIAA J) 110

Kazan, E. and Krause, J., Jr. Comparative analysis of effects of hover control concept on V/STOL aircraft size (JA) 387

Kenner, Earl R. (AIAA J, TN; see Hopkins, Edward J.)

Keil, Horst. Optimization of a central-fin space radiator (JSR, EN) . 463

Keller, C. A. (JSR, EN; see Weiss, R. O.)

Kelley, James H. and Ginsberg, Lawrence J. Performance of a Mars soft lander with staged propulsion (JSR) 774

Kemp, Joseph H., Jr. Comment on "Angle of attack and leading edge effects on the flow about a flat plate at Mach number 18" (AIAA J, TC) 2459

Kemp, Nelson H. Surface recession rate of an ablating polymer (AIAA J, TN) 1790

Kendall, John S. (JSR; see Clark, James W.)

Kendall, Robert M. and Bartlett, Eugene P. Nonsimilar solution of the multicomponent laminar boundary layer by an integral-matrix method (AIAA J) 1089

——**Rindall, R. A., and Bartlett, E. P.** Reply by authors to P. A. Libby (AIAA J, TC) 570

——(AIAA J, TC; see Dahm, Thomas J.)

Kennedy, Lawrence A. (JSR, EN; see Zelazny, Stephen W.)

Kentzer, Czeslaw P. and Evans, Larry G. Approximate closed-form expressions for equilibrium composition of high-temperature air (AIAA J, TN) 547

Kern, Edward A. and Burghart, James H. An efficient algorithm for minimum impulse orbital transfer (AIAA J, TN) 1370

Kerrebrock, Jack L. and Dethlefsen, Rolf. Experimental investigation of fluctuations in a nonequilibrium MHD plasma (AIAA J) .. 2115

Kerslake, William R. (JSR; see Staggs, John F.)

Kessel, P. G. (AIAA J; see Schlack, A. L., Jr.)

Kessler, Donald J. Upper limit on the spatial density of asteroidal debris (AIAA J, TN) 2450

Kessler, R. and Eustis, R. H. Effects of electrode and boundary-layer temperatures on MHD-generator performance (AIAA J) 1640

Ketcham, Jeffry. (AIAA J, TN; see Velkoff, Henry R.)

Kevorkian J. (AIAA J; see Lancaster, J. E.)

Keyes, J. Wayne. (AIAA J; see Whitehead, Allen H., Jr.)

——**Goldberg, Theodore J. and Emery, James C.** Turbulent heat transfer associated with control surfaces at Mach 6 (AIAA J, TN) 1612

Kicher, Thomas P. Structural synthesis of integrally stiffened cylinders (JSR) 62

——(AIAA J, TN; see Franklin, Harold G.)

Kidd, Philip W. Parametric studies with a single-needle colloid thruster (JSR) 1034

——(JSR, see Huberman, M. N.)

——Erratum: "Parametric studies with a single-needle colloid thruster" (JSR, TC) 1504

Kiel, R. E., Gey, F. C., and Gustafson, W. A. Electrostatic potentia fields of an ionospheric satellite (AIAA J) 690
——Electrostatic probe theory for free molecular cylinders (AIAA J) 708
Kilmer, E. E. Heat-resistant explosives for space applications (JSR) 1216
Kim, Jong Hyun. (AIAA J, TN; see Miles, John B.)
Kim, Kun Ha and Eraslan, Arsev H. Non-Newtonian stagnation flow with mass injection (JH, Vol. 2, EN) 221
King, Hartley H. (AIAA J, TN; see Bruch, John C., Jr.)
King, H. J. Mercury electron-bombardment thruster system (JSR) 591
——(JSR; see Ward, J. W.)
——**Molitor, J. H., and Kami, S.** System concepts for a liquid mercury cathode thruster (JSR) 933
Kirkland, Vern D. and McKhann, George G. Design and vehicle integration of a Pu-238 Brayton power system for MORL (JSR) 241
Kirkpatrick, A. (AIAA J, TN; see Heckman, D.)
Kishore, B. R. (AIAA J, TN; see Boyd, D. E.)
Kleiman, Louis A. Sensitivity requirements for star-field sensors (JSR, EN) 728
Klein, Stanley. (AIAA J; see Jones, Robert M.)
Kleinstein, Gdalia. Reply by author to F. M. White (AIAA J, TC) 990
Kliegel, James R. (JSR; see Quan, Victor)
——**and Quan, Victor.** Convergent-divergent nozzle flows (AIAA J) 1728
Klumpp, Allan R. A manually retargeted automatic landing system for the lunar module (LM) (JSR) 129
Knapp, C. F. and Roache, P. J. A combined visual and hot-wire anemometer investigation of boundary-layer transition (AIAA J) 29
——**and Bargon, W. R.** Controlled recovery of payloads at large glide distances, using the para-foil (JA) 112
Knauer, W. (JSR, EN; see Gallagher, H. E.)
Knaur, John S. Is booster recovery and re-use practical? (JSR, EN) 488
Knauss, W. G. Quasi-elastic failure analysis of a solid-propellant rocket motor under thermal variations (AIAA J) 2101
——**and Hufferd, W.** Stresses in a long, high mass fraction solid-propellant rocket motor (AIAA J, TN) 2200
Knipe, R. H. (AIAA J, SA; see Gordon, A. S.)
Knoell, A. C. A materials-design synthesis for optimum design of spacecraft energy-dissipating systems (JSR) 1170
Knoos, Stellan. Bypass piston tube, a new device for generating high temperatures and pressures in gases (AIAA J) 632
Ko, Hon-Yim. (AIAA J; see Scott, Ronald F.)
Keohler, G. (AIAA J, TN; see Ray, A. B.)
Kolenkiewicz, Ronald and Carpenter, Lloyd. Stable periodic orbits about the sun perturbed earth-moon triangular points (AIAA J) 1301
Kolpin, M. A., Horn, K. P., and Reichenbach, R. E. Study of penetration of a liquid injectant into a supersonic flow (AIAA J) 853
Komar, James J. Correlation of the virtual origin of a turbulent boundary layer (AIAA J, TN) 908
Kondoleon, Spero A. Reliability with STOL (JA) 443
Kordig, James W. (AIAA J, TN; see Mayberry, John L.)
Korkegi, R. H. (AIAA J; see Ball, K. O. W.)
——**and Briggs, R. A.** On compressible turbulent-plane couette flow (AIAA J, TN) 742
——(AIAA J, TN; see Shang, J. S.)
Koval, Leslie R. A zero-g slosh problem (JSR, EN) 865
Krachmalnick, F. M., Vetsch, G. J., and Wendl, M. J. Automatic flight control system for automatic terrain-following (JA) 168
Krahula, Joseph L. and Polhemus, John F. Use of Fourier series in the finite element method (AIAA J, TN) 726
Krajcinovic, Dusan P. and Herrmann, George. Stability of straight bars subjected to repeated impulsive compression (AIAA J, TN) 2025
Krause, Egon. Reply by author to R. C. Gunness Jr. and T. B. Erench (AIAA J, TC) 190
Krause, J., Jr. (JA; see Kazan, E.)
Krawczonek, Walter M. (JSR; see Cassidy, John F.)
Krenkel, A. R. and Salzman, A. Takeoff performance of jet-propelled conventional and vectored-thrust STOL aircraft (JA) 429
Krenzke, Martin A. and Reynolds, Thomas E. Structural research on submarine pressure hulls at the David Taylor Model Basin JH, Vol. 1) 27
Krier, H., T'ien, J. S., Sirignano, W. A., and Summerfield, M. Nonsteady burning phenomena of solid propellants: Theory and experiments (AIAA J) 278
Kromrey, R. V. (JSR; see Valentine, R. S.)
Kruger, C. H., Mitchner, M., and Daybelge, U. Transport properties of MHD-generator plasmas (AIAA J) 1712
——(AIAA J, TN; see Viegas, John R.)
——(AIAA J, TN; see Thomas, P. D.)
Kubin, Robert F. Effect of electronic excitation on the relaxation behind shock waves in N_2 (AIAA J, TN) 180
Kubota, Toshi. (AIAA J; see Lewis, John E.)
——**and Fernandez, Frank L.** Boundary-layer flows with large injection and heat transfer (AIAA J) 22
——**and Fernandez, F. L.** Errata: "Boundary-layer flows with large injection and heat transfer" (AIAA J, TC) 1215
——(AIAA J; see Batt, Richard G.)
Kuby, W. C. and Lewis, C. H. An experimental study of the effects of particle cloud impingement (AIAA J, TN) 1385
Kulgein, Norman G. Ion collection from low-speed ionized gas (AIAA J, TN) 151
Kurtz, D. W. (JSR; see Dayman, B., Jr.)
Kuska, N. and Cronander, J. A. Selection and utilization of batteries for deep submergence vehicles (JH, Vol. 2) 20
Kussoy, M. I. (AIAA J; see Horstman, C. C.)
Lackman, Leslie M. and Ault, Robert M. Minimum-weight analysis of filamentary composite wide columns (JA) 184
Lackner, K., Argyropoulos, G. S., and Demetriades, S. T. Relaxation effects in $J \times B$ devices (AIAA J, TN) 949
Laderman, A. J. and Carlson, D. J. Comment on "Thermal radiation from the exhaust plume of an aluminized composite propellant rocket" (JSR, EN) 239
——(AIAA J; see Busch, C. W.)
——**and Carlson, D. J.** Comment on "Thermal radiation from solid rocket plumes at high altitude" (AIAA J, TC) 379
LaFond, Eugene C. and LaFond, Katherine G. Internal thermal structures in the ocean (JH, Vol. 1) 48
LaFond, Katherine G. (JH, Vol. 1; see LaFond, Eugene C.)
Laganelli, A. L., Ames, W. F., and Hartnett, J. P. Transpiration cooling in a laminar boundary layer with solid wall upstream effects (AIAA J) 193
Lancaster, E. R. and Estes, R. H. Recursion formulas for the coefficients of the f and g series (AIAA J, TN) 1372
Lancaster, J. E. and Kevorkian, J. Nonplanar moon-to-earth trajectories (AIAA J) 1986
Land, Karl M. (AIAA J, TC; see Webb, George R.)
Landahl, M. Pressure-loading functions for oscillating wings with control surfaces (AIAA J) 345
——(AIAA J; see White, Richard B.)
——**and Stark, Valter J. E.** Numerical lifting-surface theory—problems and progress (AIAA J, SA) 2049
Lankton, C. S., Babjak, S. J., Crosby, J. R., and Ting, D. Insulation evaluation tests for voyager mission (JSR) 1285
Lansing, Jack C., Jr. Calibration and spaceborne performance of the surveyor spacecraft star sensor (JSR) 84
Larsen, Harold C. Considerations in the design of COIN aircraft (JA) 243
Larsen, J. V. (JSR, EN; see Seader, J. D.)
Larson, A. V. Experiments on current rotations in an MPD engine (AIAA J) 1001
Lasher, L. E. (AIAA J; see Hoshizaki, H.)
——**and Wilson, K. H.** Effect of shock precursor absorption on superorbital entry heating (AIAA J, TN) 2419
Lasky, M. (JSR; see Billig, F. S.)
Lastman, G. J. A modified Newton's method for solving trajectory optimization problems (AIAA J) 777
——**and Tapley, B. D.** Reply by authors to W. E. Schmitendorf (AIAA J, TC) 1630
Lastrina, Frank A. (AIAA J; see McAlevy, Robert F., III)
Lathem, Walter C. Effects of electrode misalinements in Kaufman thrusters (JSR, EN) 735
——A new technique for simulating space-charge potential distributions (JSR, EN) 737
Lathrop, B. L. (JSR, EN; see Sennett, R. E.)
Lawit, R. L. (JSR; see Brunner, M. J.)
Lawrence, Roy A. and Weynand, Edmund E. Factors affecting flow separation in contoured supersonic nozzles (AIAA J, TN) 1159
Lawrence, W. R. (AIAA J, TN; see Goin, Kennith L.)
Lawson, Donald B. (AIAA J; see Harding, John T.)
Leavitt, Jay A. Computational aspects of the detached shock problem (AIAA J) 1084
Lébr, F. (AIAA J, TC; see Pantoflíček, J.)
Lederman, Samuel and Wilson, Daniel S. Comment on precursors in a pressure driven shock tube (AIAA J, TC) 382
——**Bloom, M. H., and Widhopf, G. F.** Experiments on cylindrical electrostatic probes in a slightly ionized hypersonic flow (AIAA J) 2133
Lee, Han-Chow. (JSR, EN; see Durelli, August J.)
Lee, R. S. (AIAA J; see Cheng, H. K.)
Lee, Suh Yong. (AIAA J; see McAlevy, Robert F., III)
Lee, T. G. (JSR; see Folkman, N. R.)
Lee, Yu-Chung. (JH, Vol. 2; see Reismann, Herbert)
Leech, John W., Witmer, Emmett A., and Pian, Theodore H. H. Numerical calculation technique for large elastic-plastic transient deformations of thin shells (AIAA J) 2352
Lees, Lester. (AIAA J; see Lewis, John E.)
——(AIAA J; see Alber, Irwin E.)
Lefferdo, J. M. (JSR; see Coleman, W. D.)
Le Grivès, E. French research on electric propulsion: Present status and prospects for development (JSR) 808
Lekawa, E. R. (JSR; see Faulders, C. R.)
Lempriere, B. M. Uniaxial loading of orthotropic materials (AIAA J) 365
——Poisson's ratio in orthotropic materials (AIAA J, TN) 2226
Leng, Jarvis, Oman, Richard A., and Hopkins, Harold B. A detonation tube technique for simulating rocket plumes in a space environment (JSR) 1148
Lengelle, G. Oscillatory hypersonic boundary-layer flow with albation (AIAA J) 808
Leonard, H. Wayne. (JSR; see Pinson, Larry D.)
Leonard, R. Leon and Rose, Peter H. Feasibility of a high-performance aerodynamic impulse facility (AIAA J) 448
Leondes, Cornelius T. and Pearson, John L. Missile autopilot adaption using control-surface hinge-moment feedback (JSR) 154
Lepie, A. H., Zimmer, M. F., and Baroody, E. E. Estimation of theoretical performance of propellants containing C, H, O, N, F (AIAA J, TN) 179
Lepore, John A. and Shah, Haresh C. Dynamic stability of axially loaded columns subjected to stochastic excitations (AIAA J) 1515
Lepper, Richard. (AIAA J; see Levine, Samuel H.)
Lerner, Stephen. (JSR, EN; see Seiger, Harvey N.)
Lester, H. C. (JSR; see Sleeper, R. K.)
Letov, A. M. Synthesis of a system for the optimum stabilization of a space station (AIAA J) 1240
Levin, E. Solar radiation pressure perturbations of earth satellite orbits (AIAA J) 120
Levine, Samuel H. and Lepper, Richard. Analog studies of magnetic shields (AIAA J) 695
Levy, Richard H. and French, Francis W. Plasma radiation shield: Concept and applications to space vehicles (JSR) 570
Lew, H. G. Method of accelerated successive replacement applied to boundary-layer equations (AIAA J, TN) 929

Lewallen, J. M., Tapley, B. D., and Williams, S. D. Iteration procedures for indirect trajectory optimization methods (JSR)..... 321
Lewis, C. H. (AIAA J, TN; see Kuby, W. C.)
Lewis, John E., Kubota, Toshi, and Lees, Lester. Experimental investigation of supersonic laminar, two-dimensional boundary-layer separation in a compression corner with and without cooling (AIAA J)..... 7
——Compressible boundary layer and its low-speed equivalent (AIAA J, TN)..... 1185
Lewis, W. G. E. (JA; see Rettie, I. H.)
L'Hommedieu, Fred. (JSR; see Gleich, David)
Libby, Paul A. and Liu, T. M. Some similar laminar flows obtained by quasilinearization (AIAA J)..... 1541
——(AIAA J, TN; see Chen, K. K.)
——(AIAA J, TN; see Morduchow, Morris)
——Comment on "A multicomponent boundary layer chemically coupled to an ablating surface" (AIAA J, TC)..... 570
Liebing, Lotar F. C. Measurement of ion velocity distributions in low-density plasma beams (AIAA J)..... 1763
Lightfoot, C. S. (JSR, EN; see Borchers, K. H.)
Likins, Peter W. and Wirsching, Paul H. Use of synthetic modes in hybrid coordinate dynamic analysis (AIAA J)..... 1867
——(JSR; see Williamson, Dale R.)
Lill, Joseph C. (JSR; see Warren, Carlos S.)
Lin, S. C. (AIAA J; see Gibson, C. H.)
Lind, N. C. Stress concentration of holes in pressurized cylindrical shells (AIAA J, TN)..... 1397
Lindauer, George C. and Hsu, Chia-Jung. Unsteady forced-convection MHD heat transfer in a parallel plate channel (AIAA J)..... 1973
Lindberg, H. E. (AIAA J; see Anderson, D. L.)
Lindbergh, Jon M. Operational considerations for wet life-support equipment from submerged facilities (JH, Vol. 2)..... 58
Lindow, Bruce and Greber, Isaac. Similarity solution for a laminar, incompressible jet flowing along a curved surface (AIAA J)..... 1331
Lindquist, O. H. Development of a manual thrust-vector-control mode for Apollo (JSR)..... 297
Lion, P. M. and Handelsman, M. Primer vector on fixed-time impulsive trajectories (AIAA J)..... 127
Liska, Donald J. A two-degree-of-freedom control moment gyro for high-accuracy attitude control (JSR)..... 74
Lissaman, P. B. S. (JA; see Lundry, J. L.)
——A linear theory for the jet flap in ground effect (AIAA J)..... 1356
Little, Herbert R. and Griffith, B. J. Effect of mass transfer on ramp-induced separation for a flat plate at Mach 20 (AIAA J, TN)..... 1211
Liu, Chang-Keng. Sympathetic collapse in water of glass spheres with filler material (JH, Vol. 2, EN)..... 112
Liu, C. Y. and Sandborn, V. A. Laminar velocity profiles in adverse pressure gradients (JA, EN)..... 93
——(AIAA J; see Taylor, J. E.)
Liu, S. W. (AIAA J; see Chung, P. M.)
Liu, T. M. (AIAA J; see Libby, Paul A.)
Livingston, R. F. (JA; see Magruder, W. M.)
Lloyd-Jones, D. J. Airline equipment planning (JA)..... 60
Lock, M. H., Okubo, S., and Whittier, J. S. Experiments on the snapping of a shallow dome under a step pressure load (AIAA J).. 1320
——Effect of rise time on critical dynamic load (AIAA J, TN)..... 162
Loeffler, A. L., Jr. and Maciulaitis, A. Addendum: "A theoretical investigation of MHD channel entrance flows" (AIAA J, TC).... 383
Logsdon, Thomas S. and Africano, Robert C. A modified Monte Carlo procedure (AIAA J)..... 1111
Lohr, Jerome J., Wilson, Donald E., Hamaker, Frank M., and Stewart, Willie J. Accelerated testing of the mechanical and thermal integrity of polymeric materials (JSR)..... 68
Lord, R. G. and Harbour, P. J. An approximate method of calculating transition regime heat transfer and shear (AIAA J)..... 244
Lordi, J. A., Mates, R. E., and Hertzberg, A. Possible weight saving from catalysis of recombination in hydrogen rockets (AIAA J, TN)..... 172
Louis, Jean F. Disk generator (AIAA J)..... 1674
Love, Tom J. (AIAA J; see Stockham, Leo W.)
Lovell, E. G. (AIAA J; see McIvor, I. K.)
Lowe, D. L. (JSR; see Hiltz, A. A.)
Luce, Richard W. and Jarvinen, Philip O. An approximate method for predicting plume sizes for nozzle flow into still air (AIAA J, TN)..... 182
Lucheta, Roger A. Influence of Lorentz forces on flame-holding (AIAA J, TN)..... 1420
Lucy, Melvin H. Spin acceleration effects on some full-scale rocket motors (JSR)..... 179
——Errata: "Spin acceleration effects on some full-scale rocket motors" (JSR, TC)..... 1504
Ludford, G. S. S. (AIAA J, TN; see Fan, D. N.)
Ludvik, S. (AIAA J, TN; see Campbell, B.)
Ludwig, C. B. (AIAA J; see Boynton, F. P.)
Luehrs, R. E. (JA; see Mastropaolo, J. A.)
Lum, Evan L. S. (JA; see Smith, Ralph E.)
Lundell, John H., Dickey, Robert R., and Jones, Jerold W. Performance of charring ablative materials in the diffusion-controlled surface combustion regime (AIAA J)..... 1118
Lundry, J. L. and Lissaman, P. B. S. A numerical solution for the minimum induced drag of nonplanar wings (JA)..... 17
Lundstrom, Reginald R., Darnell, Wayne L., and Henning, Allen B. Large-scale decelerator flight tests simulating a Mars environment (JSR, EN)..... 1106
Lytle, Archie D. Dynamics of bellows filled with an incompressible liquid (JSR)..... 9
MacDonald, J. R., Mitchner, M., and Oliver, D. A. Electrode-size effects in an MHD generator with nonuniform electrical conduction (AIAA J, TN)..... 948
MacDougall, Hugh R. (AIAA J; see Stricklin, James A.)
Maček, Andrej. (AIAA J, TN; see Durfee, Robert L.)
Maciulaitis, A. (AIAA J, TC; see Loeffler, A. L., Jr.)
——Comments on "Ion-neutral propulsion in atmospheric media" (AIAA J, TC)..... 1214
Maddalon, Dal V. and Henderson, Arthur, Jr. Hypersonic transition studies on a slender cone at small angles of attack (AIAA J, TN)... 176
——**and Henderson, Arthur, Jr.** Boundary-layer transition on sharp cones at hypersonic Mach numbers (AIAA J)..... 424
Maddox, A. R. Impingment of underexpanded plumes on adjacent surfaces (JSR)..... 718
Maestrello, Lucio. Design criterion of panel structure excited by turbulent boundary layer (JA)..... 321
Magruder, W. M., Gorham, J. A., and Livingston, R. F. Developments associated with advanced commercial aircraft crew requirements (JA)..... 144
Mah, G. B., Almroth, B. O., and Pittner, E. V. Buckling of orthotropic cylinders (AIAA J)..... 598
Mahaffey, Raymond E., Jr. (AIAA J, TN; see Schetz, Joseph A.)
Maillie, F. H. and Hsu, C. T. Coupled vibrational and chemical relaxation for harmonic and anharmonic oscillators (AIAA J, TN). 564
Maise, George and McDonald, Henry. Mixing length and kinematic eddy viscosity in a compressible boundary layer (AIAA J)..... 73
Malasky, Sol. W. Modeling for systems safety in manned space programs (JSR, EN)..... 472
Malliaris, A. C. Oscillations in an MPD accelerator (AIAA J, TN).. 1575
Man, F. T. Comments on "Solution of the algebraic matrix Riccati equation via Newton-Raphsen iteration" (AIAA J, TC)..... 2463
Manring, E. R. (AIAA J; see Gardner, J. A.)
Manson, S. V. A review of the alkali metal Rankine technology program (JSR, SA)..... 1249
Marcal, P. V. A comparative study of numerical methods of elastic-plastic analysis (AIAA J, TN)..... 157
——Reply by author to M. A. Salmon (AIAA J, TC)..... 1439
Marchetti, Robert M. Extraction of aerodynamic derivatives from flight data, using an analog regression technique (JA)..... 22
Marcisz, T. J. (JSR; see Murch, C. K.)
Margason, B. E. (JSR; see McNeill, R. L.)
Mark, Herman, Sommers, R. D., and Mirtich, M. J. Simulated micrometeoroid degradation of thermal control coatings (JSR, EN)..... 117
Marsh, Alan H. (JA; see Pendley, Robert E.)
Marshall, K. N. and Breuch, R. A. Optical solar reflector: A highly stable, low α_s/ϵ spacecraft thermal control surface (JSR)..... 1051
Martin, Frederick H. and Battin, Richard H. Computer-controlled steering of the Apollo spacecraft (JSR)..... 400
Martin, J. F. (JSR; EN; see Sheeran, W. J.)
Martin, R. E. Theory of sandwich shells with laminated anisotropic facings (AIAA J, TN)..... 2232
Marvin, Joseph G. and Pope, Ronald B. Erratum: "Laminar convective heating and ablation in the Mars atmosphere" (AIAA J, TC)..... 192
Marxman, G. A. and Wooldridge, C. E. Effect of surface reactions on the solid propellant response function (AIAA J)..... 471
Mascy, Alfred C., Dugan, Duane W., and Pitts, Samuel W. Applications of combined electric, high-thrust propulsion systems (JSR). 785
Mash, J. T. An airborne manual/automatic malfunction detection system (JA)..... 502
Mason, William J. Nonlinear first-order systems reducible to classical equations (AIAA J, TN)..... 2444
Massey, B. S. (AIAA J, TN; see Clayton, B. R.)
Massier, P. F. (JSR, EN; see Back, L. H.)
——(AIAA J, TN; see Back, L. H.)
Mastropaolo, J. A., Burrows, A. A., Luehrs, R. E., and Alkov, R. A. Human error research and analysis program (HERAP) (JA)..... 497
Mates, R. E. (AIAA J, TN; see Lordi, J. A.)
Mathes, H. B. (AIAA J, TN; see Dehority, George L.)
Mathiesen, James C. (JSR; see DeBra, Daniel B.)
Maurer, R. E. (JSR, EN; see Schneider, P. J.)
Maxwell, Kenneth R. (AIAA J, TN; see Strehlow, Roger A.)
Mayberry, John L., Kordig, James W., Zeamer, Richard J., and Browning, Stanley C. Correlation of graphite nozzle throat erosion in solid-rocket motors (AIAA J, TN)..... 2222
Mayer, John P. (JSR; see Parten, Richard P.)
Mayo, Alton P. Orbit determination for lunar orbiter (JSR)..... 395
McAlevy, Robert F., III, Lee, Suh Yong, and Smith, Westcott H. Linear pyrolysis of polymethylmethacrylate during combustion (AIAA J)..... 1137
——**Lee, Suh Yong, Cole, Richard B., Lastrina, Frank A., and Samurin, Norman A.** Investigation of the AP composite solid-propellant deflagration mechanism by means of experimental analog techniques (AIAA J)..... 1243
McCaa, David J. Measurement of film thickness of thin-film resistance thermometers (AIAA J, TN)..... 747
McCalister, D. A. and Bickford, L. L. Frequency response determination using white noise excitation (JSR, EN)..... 872
McCarthy, J. F., Jr., Dodds, J. Ian, and Crowder, R. S. Development of the Apollo launch escape system (JSR)..... 927
——**and Hanley, G. M.** Manned earth entry at hyperbolic velocities (JSR)..... 1009
McCaskill, A. M. and Cimino, A. A. Failure analysis and environmental testing of the Intelsat II apogee motor (JSR, EN)..... 1002
McCauley, John F. Geologic results from the lunar precursor probes (AIAA J)..... 1991
McCormick, Barnes W., Tangler, James L., and Sherrieb, Harold E. Structure of trailing vortices (JA)..... 260
McCroskey, W. J. and Yaggy, P. F. Laminar boundary layers on helicopter rotors in forward flight (AIAA J)..... 1919
——Density and velocity measurements in high-speed flows (AIAA J, TN)..... 1805
——(AIAA J, TC; see Bogdonoff, S. M.)
McDonald, Henry. (AIAA J; see Maise, George)
McFarland, B. L. (JSR; see Friedman, H. A.)
McFeely, J. E. (AIAA J; see Bailie, J. A.)

McGarvey, J. F. Approximate solution of linearized ballistic equation of motion with error analysis (JSR) 911
McHale, Edward T. (AIAA J, TN; see von Elbe, Guenther)
McIntosh, Michael J. Heat-transfer solution for a gas/particle mixture losing heat to parallel boundaries (JSR, EN) 114
McIntosh, S. C. and Eastep, F. E. Design of minimum-mass structures with specified stiffness properties (AIAA J, TN) 962
McIvor, I. K. and Lovell, E. G. Dynamic response of finite-length cylindrical shells to nearly uniform radical impulse (AIAA J) 2346
McKay, W. L. (AIAA J, TN; see Reinecke, William G.)
McKee, Harris B. and Mitchner, M. Electrostatic probe measurements in flowing NaK-seeded argon (AIAA J, TN) 1587
McKenzie, Robert L. (AIAA J, TN; see Menees, Gene P.)
——A correspondence of blunt-body nonequilibrium shock layers (AIAA J, TN) 944
McKeown, D. (AIAA J, TN; see Valerio, J.)
McKhann, George G. (JSR; see Kirkland, Vern D.)
McKinzie, Daniel J., Jr. and Julius, Anthony L., Jr. Calculations of the interaction of the solar plasma with the magnetic field of a current loop and two parallel infinite lines of current (JSR) 3
McLafferty, G. H. Survey of advanced concepts in nuclear propulsion (JSR, SA) 1121
McLaughlin, C. W. (JSR; see Abbe, C. J.)
McLean, F. Edward. (AIAA J, TN; see Seebass, R.)
McMullen, E. T. (AIAA J; see Sawyer, Robert F.)
McNab, I. R. (AIAA J; see Haines, M. G.)
McNary, R. L. (JSR; see Faulders, C. R.)
McNeill, R. L., Margason, B. E., Babcock, F. M., and Barneich, J. A. Design methods for transient response and isolation of ground-founded microprecision slabs (JSR) 1297
McRae, R. P. (AIAA J; see Catton, I.)
Medecki, Hector. (AIAA J; see Abele, Manlio)
Medin, A. L., Cavanaugh, D. J., and Cades, S. B. Computer-managed laboratory for space applications (JSR) 1205
Meissinger, H. F., Park, R. A., and Hunter, H. M. A 3-kw solar-electric spacecraft for multiple interplanetary missions (JSR) 678
Meissner, Claus J. A multiple coupling algorithm for the stiffness method of structural analysis (AIAA J, TN) 2184
Melde, John E. (JSR; see Quan, Victor)
Melnik, W. L. (JSR; see Perini, L. L.)
Melosh, Robert J. (AIAA J, TN; see Utku, Senol)
Menard, Wesley A., Thomas, George M., and Helliwell, Thomas M. Experimental and theoretical study of molecular, continuum, and line radiation from planetary atmospheres (AIAA J) 655
Mendelson, Richard S. (AIAA J, TN; see Cassanto, John M.)
Mendenhall, Michael R., Spangler, Selden B., and Nielsen, Jack N. Review of methods for predicting the aerodynamic characteristics of parawings (JA) 597
Menees, Gene P. and McKenzie, Robert L. A simplified chemical model for estimating the nonequilibrium radiant emission of CN-(violet) in shock-heated mixtures of CO_2 and N_2 (AIAA J, TN) ... 554
Mengel, J. T. (JSR, EN; see Vonbun, F. O.)
Mensing, Arthur E. (JSR; see Clark, James W.)
Merel, M. H. and Mullin, F. J. Analytic Monte Carlo error analysis (JSR) 1304
Meroney, Robert N. Comments on "Boundary-layer turbulence measurements with mass addition and combustion" (AIAA J, TC) 1213
Merriam, R. L. and Viskanta, R. Radiative characteristics of absorbing, emitting, and scattering media on opaque substrata (JSR) 1210
Merritt, David L. Mach reflection on a cone (AIAA J, TN) 1208
Merwin, J. E. (AIAA J; see Akyuz, F. A.)
Messerle, H. K. (AIAA J, TN; see Campbell, B.)
Meyer, W. A. (AIAA J; see Wells, C. S., Jr.)
Michaeli, Ephraim. (JSR, EN; see Spiegler, Elieser)
Michalke, Alfons. Comment on "A combined visual and hot-wire anemometer investigation of boundary-layer transition" (AIAA J, TC) 1631
Michels, Charles J. (AIAA J; see Connolly, Denis J.)
Michielsen, H. F. A rendezvous with Halley's Comet in 1985–1986 (JSR) 328
Mighdoll, P. and Cess, R. D. Infrared radiative equilibrium under large path length conditions (AIAA J, TN) 1778
Miles, John B. and Kim, Jong Hyun. Evaluation of Coles' turbulent compressible boundary-layer theory (AIAA J, TN) 1187
——**and Shih, Jing-shihong.** Simiarity parameter for two-stream turbulent jet-mixing region (AIAA J, TN) 1429
Milleman, S. E. Pneumatic logic rocket engine sequence control (JSR) 439
Miller, George E. and Franklin, James A. Lateral-directional flying qualities for power approach (JA) 126
Miller, James A. Comment on "Effects of freestream disturbances on boundary-layer transition" (AIAA J, TC) 2461
Miller, John E. and Feldman, Julius. Gyro reliability in the Apollo guidance, navigation, and control system (JSR) 638
Miller, Leonard D. Predicting turbulent compressible boundary layers in strong adverse pressure gradients (JSR) 959
Miller, Richard H. and Russell, Charles R. Analysis of the pressure response of a cavity vented to a missile launcher (JSR, EN) 492
——Boundary-layer transition from minuteman flight tests (JSR, EN) 995
Miller, S. R. (JA; see Armstrong, R. S.)
Milligan, Mancil W., Cowling, Peter W., and Wilkerson, Harvey J. Rarefied gas flow through annuli (AIAA J, TN) 914
Milne, R. D. Some remarks on the dynamics of deformable bodies (AIAA J, TN) 556
Miner, W. E. and Andrus, J. F. Necessary conditions for optimal lunar trajectories with discontinuous state variables and intermediate point constraints (AIAA J) 2154
Mirels, Harold and Welsh, William E., Jr. Stagnation-point boundary layer with large wall-to-freestream enthalpy ratio (AIAA J) .. 1105
——**and Ellinwood, J. W.** Viscous interaction theory for slender axisymmetric bodies in hypersonic flow (AIAA J) 2061
——Subsonic flow of hot gas through a highly cooled channel (AIAA J, TN) 1585
Miron, Y. (JSR, EN; see Perlee, H. E.)
——(JSR, TC; see Perlee, H. E.)
Mirtich, Michael J. (AIAA J, TN; see Bowman, Robert L.)
——**and Bowman, Robert L.** Reply by authors to R. A. Breuch (AIAA J, TC) 381
——(JSR, EN; see Mark, Herman)
Misselhorn, John E. (JSR; see Shirley, Donna L.)
Mitchell, H. P. (JSR; see Wells, C. R.)
Mitchner, M. (AIAA J, TN; see Oliver, D. A.)
——(AIAA J, TN; see MacDonald, J. R.)
——(AIAA J, TN; see McKee, Harris B.)
——(AIAA J; see Kruger, C. H.)
Miura, Koryo. Inextensional buckling deformations of general cylindrical shells (AIAA J, TN) 966
Modi, V. J. and Brereton, R. C. Planar librational stability of a flexible satellite (AIAA J) 511
——(AIAA J, TN; see Brereton, R. C.)
Moe, Kenneth. Recent experimental evidence bearing on satellite drag coefficients (AIAA J, TN) 1375
——Errata: "Recent experimental evidence bearing on satellite drag coefficients" (AIAA J, TC) 2048
Molitor, J. H. (JSR; see King, H. J.)
——**and Olson, R. N.** Solar-electric propulsion systems for unmanned space missions (JSR) 1312
Molloy, J. K. (JSR; see Woods, W. C.)
Mona, Alain G. Aerodynamic drag of a spacecraft centrifuge for crew reconditioning (JSR, EN) 993
Monforton, G. R. and Schmit, L. A., Jr. Finite element analysis of skew plates in bending (AIAA J, TN) 1150
Monroe, J. W. and Corso, C. J. A building-block approach to Saturn V uprating using solid-propellant motors (JSR) 827
Moorman, D. W. (JSR; see Nye, H. H.)
Morales, W. J. (AIAA J; see Nevill, G. E., Jr.)
Moran, M. J. and Gaggioli, R. A. Similarity analyses via group theory (AIAA J, TN) 2014
Morduchow, Morris and Libby, Paul A. Class of solutions of the axisymmetric boundary-layer equations with mass transfer (AIAA J, TN) 2045
Mori, Sigeru. (AIAA J; see Kawashima, Nobuki)
Morkovin, M. V. (AIAA J; see Goldman, R. L.)
Morland, L. W. Generation of thermoelastic stress waves by impulsive electromagnetic radiation (AIAA J) 1063
Morse, C. P. (JSR, EN; see Byron, R. A.)
Moskowitz, Saul and Devereux, William P. Trans-stellar space navigation (AIAA J) 1021
Moyer, Carl B. (AIAA J, TC; see Rindal, Roald A.)
Muehlhauser, J. (AIAA J; see Denzel, D. L.)
Mueller, James N. and Winebarger, Roger M. Erratum: Viscous effects on hypersonic L/D of three classes of manned spacecraft (JSR, TC) 368
Mueller, Thomas J. Determination of the turbulent base pressure in supersonic axisymmetric flow (JSR) 101
——**and Hall, Charles R., Jr.** Separated flow region within a planar expansion-deflection nozzle (JSR, EN) 738
Mukherjee, Jyotirmay. Stresses due to vibration of spherical shells of aeolotropic materials (AIAA J, TN) 1563
Mullin, F. J. (JSR; see Merel, M. H.)
Munjal, N. L. Ignition of nonhypergolic propellants with hypergolic fluids (AIAA J, TN) 1782
Murch, C. K., Broadwell, J. E., Silver, A. H., and Marcisz, T. J. Performance losses in low-Reynolds-number nozzles (JSR) 1090
Murfin, W. B. (AIAA J; see Alzheimer, W. E.)
Murphy, Charles H. Stability criterion for ascending ballistic missiles (JSR, TC) 495
——Nonlinear motion of a symmetric missile acted on by a double valued static moment (AIAA J) 713
Murphy, John D. (AIAA J, TN; see Rose, William C.)
Murray, F. Taft and Babine, Theodore E. Optimum viscous damping of a gravity-gradient-stabilized satellite (JSR, EN) 235
Murthy, P. N. and Subramanian, G. Minimum weight analysis based on structural reliability (AIAA J, TN) 2037
Murty, A. V. Krishna and Murty, G. Viswa. Design modifications in vibration problems (JSR, EN) 870
Murty, G. Viswa. (JSR, EN; see Murty, A. V. Krishna)
Muzzy, R. J. (AIAA J; see Brown, R. S.)
Myint-U, T. Effect of oblateness and drag on equatorial orbits with small eccentricities (JSR, EN) 123
Nachbar, W. (AIAA J; see Bhatia, N. M.)
——(AIAA J; see Huang, N. C.)
Naeher, Carl H. (AIAA J, TN; see Benenson, David M.)
Nakamura, Yasuharu. Some contributions on a control-surface buzz at high subsonic speeds (JA) 118
Nakanishi, S. and Pawlik, E. V. Experimental investigation of a 1.5-m-diam Kaufman thruster (JSR) 801
——**Richley, E. A. and Banks, B. A.** High-perveance accelerator grids for low-voltage Kaufman thrusters (JSR, EN) 356
Nanda, Kul Deepak. (AIAA J; see Bhutani, Om Prakash)
Nathanson, D., Gabron, F., and Almgren, D. W. Accuracy of zone and nodal finite-difference techniques (JSR, EN) 876
Navaratna, D. R., Pian, T. H. H., and Witmer, E. A. Stability analysis of shells of revolution by the finite-element method (AIAA J) ... 353
Nawrocki, H. Franz. (JA; see Brown, Alan C.)
Naylor, K. A. (AIAA J, TC; see Guile, A. E.)
Nelson, W. (AIAA J; see Weiss, R. F.)
Nelson, William J. and Coward, Ken S. Propulsive-lift landing of manned entry vehicles (JSR) 781
Nemat-Nasser, S. On the response of shallow thin shells to random excitations (AIAA J) 1327

Nemecek, J. F. Advancing DC-9 maintenance techniques through multiparameter recording (JA) ... 292
Nerem, Robert M. (AIAA J; see Golobic, Robert A.)
——(AIAA J; see Hopkins, Richard A.)
Ness, Nathan and Ambrosiani, Jack P. A spherical piston problem including the effects of equilibrium chemistry (AIAA J, TN) ... 1200
——Erratum: "Some comments on the laminar compressible boundary-layer analysis with arbitrary pressure gradient" (AIAA J, TC) ... 992
Nestler, Donald E. Correlation of turbulent heat flux to deceleration flaps in supersonic flow (JSR, EN) ... 998
Neumeyer, F. E. Drift angle acuity in determination of attitude of orbital spacecraft (JSR, EN) ... 213
Nevill, G. E., Jr., Morales, W. J., and Horowitz, J. M. Studies of parameter significance in shell-liquid impact (AIAA J) ... 1511
Newell, Fred D. and Pietrzak, Paul E. In-flight measurement of human response characteristics (JA) ... 277
Newman, M. (AIAA J, TC; see Ojalvo, I. U.)
Newton, James K. and Farrell, James L. Natural frequencies of a flexible gravity-gradient satellite (JSR) ... 560
Newton, Jefferson F. Observables testing of ablative materials (AIAA J) ... 2255
Nichols, C. R. and Obloy, S. J. Automatic controls for facilities and mercury ion thrusters in durability testing (JSR, EN) ... 1484
Nicholls, J. A. (AIAA J; see Selberg, B. P.)
Nickerson, Gary R. (JSR; see Quan, Victor)
Nielsen, Jack N. (JA; see Mendenhall, Michael R.)
Niemann, R. A. Two-position roll modulation of lift for aerodynamic braking of a Mars entry vehicle (JSR, EN) ... 725
Niessen, W. R. (JSR, EN; see Bastress, E. K.)
Nishizaka, T. J. Docking mechanisms applicable to logistics spacecraft systems (JSR, EN) ... 1112
Nissel, N. B. and Vafakos, W. P. Asymptotic solution for short ring-reinforced oval cylinders (AIAA J) ... 133
Nixon, J. (JA; see Beerbower, A.)
Nordby, Gene M. (JA; see Bert, Charles W.)
Nurre, Gerald S. Effects of aerodynamic torque on an asymmetric, gravity-stabilized satellite (JSR) ... 1046
Nye, H. H. and Moorman, D. W. Lunar orbiter velocity control system (JSR) ... 139
Obata, Akira. (JA; see Azuma, Akira)
Oberg, Carl L. Combustion instability: The relationship between acoustic and nonacoustic instability (AIAA J) ... 265
——**Ryan, N. W., and Baer, A. D.** A pulsed T-burner technique (AIAA J, TN) ... 920
——**Ryan, N. W., and Baer, A. D.** A study of T-burner behavior (AIAA J) ... 1131
Obloy, S. J. (JSR; EN; see Nichols, C. R.)
Ocheltree, Stewart L. (AIAA J, TN; see Weinstein, Leonard M.)
Oden, J. T. Calculation of stiffness matrices for finite elements of thin shells of arbitrary shape (AIAA J, TN) ... 969
Oettinger, Peter E. Measurements of argon shock layer electron densities (AIAA J, TN) ... 150
Oh, Y. H. (JH, Vol. 2, EN; see Chang, P. K.)
Ohlemiller, T. J. and Summerfield, M. A critical analysis of arc image ignition of solid propellants (AIAA J) ... 878
Ohman, L. H. A "square" flare—a second note (AIAA J, TN) ... 2449
——Reply by author to C. H. Murphy (JSR, TC) ... 496
Ojalvo, I. U. and Newman, M. Reply by authors to R. D. Smith (AIAA J, TC) ... 576
Okubo, S. (AIAA J; see Lock, M. H.)
Oliver, Calvin C. (AIAA J, TN; see Burns, Raymond K.)
Oliver, D. A. and Mitchner, M. Finite ionization rate effects over electrodes in MHD channels (AIAA J, TN) ... 732
Oliver, D. A. (AIAA J, TN; see MacDonald, J. R.)
Oliver, R. H. (AIAA J; see Denzel, D. L.)
O'Loughlin, John R. (AIAA J; see Douglas, George W.)
Olson, Mervyn D. (AIAA J; see Evensen, David A.)
Olson, R. N. (JSR; see Molitor, J. H.)
Oman, Richard A. (JSR; see Leng, Jarvis)
Oppenheim, A. K. (AIAA J; see Busch, C. W.)
——(AIAA J; see Panton, Ronald)
Orlik-Rückemann, K. J. Ablative surface recession and mass loss on large-angle sphere-cones (JSR, EN) ... 996
Orr, J. W. and Crane, W. E. A large-scale liquid fluorine flow facility development program (JSR) ... 1129
Orth, R. C. (JSR; see Billig, F. S.)
Osmon, R. V. Improved methods of spillage drag prediction for two-dimensional inlets (JA) ... 254
Otis, David R. Reply by author to Guile, Naylor, and Hodnett (AIAA J, TC) ... 192
Otsap, Ben A. and Yankura, George A. A fluidic fuel control system (JA) ... 373
Page, Russell J. and Short, Robert A. Ten-millipound resistojet performance (JSR, EN) ... 857
Palamara, Ronald D. and Bridges, Wendell J. Equations of motion of a deep submergence rescue vehicle with active mercury damping control (JH, Vol. 2) ... 74
Paley, Peter N. (JA; see Brown, Alan C.)
Pan, Y. S. Effects of winds and inhomogeneous atmosphere on sonic boom (AIAA J, TN) ... 1393
Pantoflíček, J. and Lébr, F. Comments on "Surface exotherm reaction during ignition of ammonium perchlorate propellants" (AIAA J, TC) ... 1435
Panton, Ronald and Oppenheim, A. K. Shock relaxation in a particle-gas mixture with mass transfer between phases (AIAA J) ... 2071
Pao, H. P. Magnetohydrodynamic flows over a rotating disk (AIAA J) ... 1285
Pao, Yen-Ching. Influence coefficients of short circular cylindrical shells with varying wall thickness (AIAA J, TN) ... 1613
——(AIAA J, TN; see Wang, Han-chung)
Papirno, Ralph and Goldman, Richard. Low strain-rate plastic buckling of aluminum cylinders at 500°F (AIAA J, TN) ... 1794
Papis, Tadeusz and Bullard, Clark W. Attitude of a spinning rocket under thrust with statistically varied error sources (JSR, EN) ... 607
——Comments on "A re-evaluation of jet damping" (JSR, TC) ... 1246
Park, Chul. Measurements of ionic recombination rate of nitrogen (AIAA J) ... 2090
Park, R. A. (JSR; see Meissinger, H. F.)
Parker, D. and Grayzel, A. I. Generation of high microwave power using arrays of varactor diodes (JSR, EN) ... 1368
Parker, Loyd C. Operational range safety for solid-propellant sounding rockets (JSR) ... 705
Parker, R. H. (JA; see Templeman, J. E.)
Parker, W. S. and Barrows, R. L. Saturn IB first-stage propllent loading principles, accuracies, and future improvements (JSR, EN) ... 1355
Parkinson, Bradford W. Closed-form solution for motion of a spinning rigid body (JSR, EN) ... 606
Parks, E. K. and Petersen, R. E. Analysis of a "Coanda" type flow (AIAA J) ... 4
Parks, Patrick C. and Pritchard, Anthony J. Comment on "Further study on 'A stability criterion for panel flutter via the second method of Liapunov' " (AIAA J, TC) ... 1437
Parks, V. J., Durelli, A. J., and Chen, T. L. Stresses in a restrained shrinking disk with a central slot (AIAA J, TN) ... 1181
——(JSR, EN; see Durelli, August J.)
Parlange, Jean-Yves. Determination of unsteady supersonic flows around thin pointed wings by asymptotic expansions (JA) ... 455
Parten, Richard P. and Mayer, John P. Development of the Gemini operational rendezvous plan (JSR) ... 1023
Patel, Hirabhai N. (AIAA J, TN; see Taulbee, Dale B.)
Patel, P. D. Interface conditions in heat-conduction problems with change of phase (AIAA J, TN) ... 2454
Patel, Sharad A. (AIAA J, TN; see Salzman, A. P.)
Patterson, G. A., Jr. Criteria for determination of minimum usable approach speed (JA) ... 268
Patty, R. R. (AIAA J; see Gardner, J. A.)
Pavagadhi, L. J. and Smetana, F. O. Effect of downstream geometry on rarefied gas flow through a nozzle throat (AIAA J, TN) ... 1387
Pawlik, E. V. (JSR; see Nakanishi, S.)
——(JSR, see Rawlin, V. K.)
Paynter, Gerald C. (JA; see Seebaugh, William R.)
Pearson, John L. (JSR; see Leondes, Cornelius T.)
Peko, Paul E. (JSR, EN; see Guman, William J.)
Pell, Kynric Martin. Electron temperature in an electrodeless discharge (AIAA J, TN) ... 1433
Pellet, David A., Costello, Robert G., and Brock, John E. Buckling of a tension panel containing a circular hole (AIAA J, TN) ... 2012
Pendley, Robert E. and Marsh, Alan H. Turbofan-engine noise suppression (JA) ... 215
Penfold, A. S. (AIAA J, TN; see Seemann, G. R.)
Pengelley, C. Desmond. Natural frequency of longitudinal modes of liquid propellant space launch vehicles (JSR) ... 1425
Penner, J. E. (JSR; see Pope, D. H.)
Penner, S. S. (AIAA J, TN; see Sharma, O. P.)
Penzias, Walter. Saturation diving system design considerations (JH, Vol. 2) ... 137
Pepper, William B. (JSR, EN; see Colp, John L.)
Peretz, Arie. Experimental investigation of the erosive burning of solid-propellant grains with variable port area (AIAA J, TN) ... 910
Pergament, Harold S. and Fontijn, Arthur. A model of chemical releases leading to upper-atmospheric chemi-ion formation (AIAA J) ... 94
Pericart, J. (AIAA J; see de Montardy, A.)
Perini, L. L. and Melnik, W. L. Nonequilibrium hypersonic flow past smooth symmetric bodies (JSR) ... 309
Perlee, H. E., Christos, T., Miron, Y., and James, H. K. Preignition phenomena in small A-50/NTO pulsed rocket engines (JSR, EN) ... 233
——**Miron, Y., and James, H. K.** Reply by authors to C. W. Baulknight (JSR, TC) ... 1008
Perlee, J. S. (JA; see Hauger, H. H.)
Person, Lee H., Jr. (JSR; see Goode, Maxwell W.)
Peters, Edward T. and Kaufman, Larry. Analysis of a very high temperature liquid alloy heat exchanger for hydrogen (JSR) ... 1070
Pesch, Alan J. Behavioral cybernetic theory applied to ship/manipulator control in small submarines (JH, Vol. 1) ... 35
Petersen, E. E. (AIAA J, TN; see Shannon, L. J.)
Petersen, E. V. (JSR, EN; see Wasko, P. E.)
Petersen, Robert A. (JSR; see Copeland, Alan B.)
Petersen, R. E. (AIAA J; see Parks, E. K.)
Petrie, David M. Automatic flight management of future high-performance aircraft (JA) ... 335
Petroff, Alex N. Comment on "U. S. Navy hydrofoil craft" (JH, Vol. 2, TC) ... 176
Pfeifer, Robert J. and Hendricks, C. D., Jr. Parametric studies of electrohydrodynamic spraying (AIAA J) ... 496
——Optimal configuration for a zero-g nucleonic fuel gage (JSR, EN) ... 985
Pfender, E. (AIAA J; see Wutzke, S. A.)
——(AIAA J; see Shih, K. T.)
——(AIAA J, TC; see Wutzke, S. A.)
Philliou, Peter. Effect of correlated sextant measurement errors on circumlunar flight (JSR, EN) ... 340
Pian, T. H. H. (AIAA J; see Navaratna, D. R.)
——(AIAA J; see Leech, John W.)
Picard, Jean-Paul and Trask, Russell L. A new gun barrel erosion reducer (JSR, EN) ... 1487
Pickerell, D. J. and Cresswell, R. A. Powerplant aspects of high-speed, inter-city VTOL aircraft (JA) ... 467
Pietrzak, Paul E. (JA; see Newell, Fred D.)
Pinson, Larry D., Leonard, H. Wayne, and Raney, John P. Analyses of the longitudinal dynamics of launch vehicles with application to a 1/10-scale Saturn V model (JSR) ... 303

Pisciotta, A., Jr. and Eusanio, E. Subsystems analyses for a MORL resistojet control system (JSR) 948
Pitkin, Edward T. (AIAA J, TN; see Czuchry, Andrew J.)
——Determination of flight speeds and drag coefficients from time and distance measurements (JSR, EN) 1000
Pittman, Charles U., Jr. (AIAA J; see Caveny, L. H.)
Pittner, E. V. (AIAA J; see Mah, G. B.)
Pitts, J. H. (AIAA J, TN; see Van Sant, J. H.)
Pitts, Samuel W. (JSR; see Mascy, Alfred C.)
Platzer, M. F. and Sherer, A. D. Dynamic stability analysis of bodies of revolution in supersonic flow (JSR) 833
Plaut, Raymond H. A stability criterion for flutter of a cylindrical panel (AIAA J, TN) 1205
——Comment on "Further study on 'A stability criterion for panel flutter via the second method of Liapunov'" (AIAA J, TC) 1437
Plourde, G. A. and Stenning, A. H. Attenuation of circumferential inlet distortion in multistage axial compressors (JA) 236
Poisson-Quinton, Philippe. From wind tunnel to flight, the role of the laboratory in aerospace design (JA) 193
Polhemus, John F. (AIAA J, TN; see Krahula, Joseph L.)
Pope, D. H. and Penner, J. E. Testing of polymeric materials for use in multiple-ply expulsion bladders for cryogenic liquids (JSR) 259
Pope, Ronald B. Measurements of enthalpy in low-density arc-heated flows (AIAA J) 103
——(AIAA J, TC; see Marvin, Joseph G.)
——Stagnation-point convective heat transfer in frozen boundary layers (AIAA J) 619
Popinski, Zenon. Generalized correlations of force coefficients for a blunted cone (JSR, EN) 346
Porcelli, Giacomo. Optimal attitude control of a dual-spin satellite (JSR) 881
Porter, Lawrence D. (AIAA J; see Sforza, Pasquale M.)
Porter, Robert W. Aerodynamic configuration yielding lift without sonic boom (JA, EN) 606
Potillo, Robert W. (AIAA J, TN; see Bond, Charles E.)
Potter, J. E. and Vander Velde, W. E. Optimum mixing of gyroscope and star tracker data (JSR) 536
——**and Fraser, Donald C.** Comment on "A formula for updating the determinant of the covariance matrix" (AIAA J, TC) 1439
Potter, J. Leith and Carden, William H. Design of axisymmetric contoured nozzles for laminar hypersonic flow (JSR) 1095
——Observations on the influence of ambient pressure on boundary-layer transition (AIAA J) 1907
Potter, M. U. and Ahlborn, B. Doppler shift measurements with the double-wedge technique (AIAA J, TN) 2227
Pottsepp, L. and Shi, Y. Y. Optimal lift control of a hypersonic glider (AIAA J, TN) 1169
Powers, Walter L. and Dicks, John B. Transient wave growth in magnetogasdynamic generators (AIAA J) 1007
Powers, William F. A method for comparing trajectories in optimum linear perturbation guidance schemes (AIAA J, TN) 2451
Prabhu, A. (AIAA J, TN; see Vasantha, S.)
Prado, Manuel E. Fracture process in fluorocarbon laminate composites (JSR) 1393
Prager, W. (AIAA J; see Huang, N. C.)
Prahlad, T. S. Wall similarity in three-dimensional turbulent boundary layers (AIAA J, TN) 1772
Prasthofer, W. P. (JSR; see Wood, L. H.)
Pratt, N. H. (AIAA J, TN); see Blom, A. P.)
Prentice, J. L. (AIAA J, SA; see Gordon, A. S.)
Price, Charles F. Minimum variance estimates of gyroscopic drift parameters (JSR, EN) 747
——A method for "Closing the loop" in explicit guidance systems (AIAA J, TN) 1148
Pride, Richard A. (JA; see Stein, Bland A.)
Pringle, J. Kenneth. (AIAA J; see Austin, Carl F.)
Pringle, Ralph, Jr. Exploitation of nonlinear resonance in damping an elastic dumbbell satellite (AIAA J) 1217
Pritchard, Anthony J. Stability boundaries for a two-dimensional panel (AIAA J, TN) 1590
——(AIAA J, TC; see Parks, Patrick C.)
Pritchard, E. Brian and Harrison, Edwin F. Multipurpose entry vehicle requirements for unmanned landings on bodies having tenuous atmospheres (JSR) 413
——**and Harrison, Edwin F.** Direct entry longitudinal range dispersion of unmanned Mars landers (JSR, EN) 1497
Probstein, Ronald F. (AIAA J; see Shorenstein, Michael L.)
Prongay, D. M. Data systems and data analysis methods to support onboard in-flight operations (JA) 578
Pugh, Philip G. (AIAA J, TN; see Ward, L. Christopher)
Purcell, Everett W. and Barbery, Thomas B. Dispersions resulting from atmospheric variations (JSR, EN) 1005
Purgalis, Peteris. (AIAA J; see Sawyer, Robert F.)
Quan, Victor, Meilde, John E., Kliegel, James R., Nickerson, Gary R., and Frey, Henry M. Kinetic performance of barrier-cooled rocket nozzles (JSR) 1137
——(AIAA J; see Kliegel, James R.)
Raco, Roland J. Stability of a liquid jet in a longitudinal time-varying electric field (AIAA J, TN) 979
Rafalski, Pawel and Żyszkowski, Wiktor. Lagrangian approach to the nonlinear boundary heat-transfer problem (AIAA J, TN) 1606
Rainbird, William John. Turbulent boundary-layer growth and separation on a yawed cone (AIAA J) 2410
Rajaiah, K. (AIAA J, TN; see Rao, Akella Kameswara)
Ramamoorthy, P. Kármán-Pohlhausen method for MHD boundary layers (AIAA J, TN) 1407
Raney, John P. (JSR; see Pinson, Larry D.)
Ranson, W. F. (JSR; see Braswell, D. W.)
Ranzenhofer, H. D. Development of an autopilot for the Dolphin hydrofoil (JH, Vol. 1) 73
Rao, Akella Kameswara and Rajaiah, K. Polygon-circle paradox of simply supported thin plates under uniform pressure (AIAA J, TN) 155
Rastogi, R. P. and Baijal, S. K. Boron containing polymers as potential rocket propellants (AIAA J, TN) 1815
Rau, Timonthy R. (JSR, EN; see Elliott, Jarrell R.)
Rawlin, V. K. and Pawlik, E. V. A mercury plasma-bridge neutralizer (JSR) 814
Rawling, A. G. Passive determination of homing time (AIAA J, TN) 1604
Ray, A. B., Koehler, G., Salser, G. E., and Dauerman, L. Evidence for the formation of azides in the N_2H_4/N_2O_4 reaction (AIAA J, TN) 2186
Raymond, Lawrence W. Physiologic mechanisms of maintaining thermal balance in high-pressure environments (JH, Vol. 1) 102
Razner, Ronald. Electromagnetic influences in a hydrogen-oxygen rocket combustor (AIAA J, TN) 1201
Reddy, N. M. A method for measuring Reynolds number, viscosity, and atom concentration in hypervelocity nozzles (AIAA J, TN) .. 1398
Redmond, J. H. and Bott, F. W. Design study of a.c. motors to operate in helium from liquid to gaseous state (JSR) 1065
Reed, G. W. (AIAA J; see Schneider, P. J.)
Rehfield, L. W. and Hallauer, W. L., Jr. Edge restraint effect on buckling of compressed curved panels (AIAA J, TN) 187
Reichenbach, R. E. (AIAA J; see Anderson, J. B.)
——(AIAA J; see Kolpin, M. A.)
Reinecke, William G. and McKay, W. L. An interferometric study of the turbulent wake behind a hypersonic, sharp, slender cone (AIAA J, TN) 1204
Reinhardt, Thomas F. Significance of explosive intermediates in rocket engine combustion (AIAA J, TN) 748
Reismann, Herbert and Lee, Yu-Chung. Dynamics of a floating ice sheet (JH, Vol. 2) 108
——Heat conduction in a bounded, anisotropic medium (AIAA J, TN) 744
Repic, E. M., Boobar, M. G., and Chapel, F. G. Aerobraking as a potential planetary capture mode (JSR) 921
Rettie, I. H. and Lewis, W. G. E. Design and development of an air intake for a supersonic transport aircraft (JA) 513
Reyle, Stanley P. (JH, Vol. 2; see Schram, Jeffrey W.)
Reynolds, Thomas E. (JH, Vol. 1; see Krenzke, Martin A.)
Ribarich, J. J. Surveyor spacecraft landing accuracy (JSR) 768
Ribovich, John, Watson, Richard W., and Gibson, Frank C. Instrumented card-gap test (AIAA J) 1260
Richley, E. A. (JSR, EN; see Nakanishi, S.)
Ricketts, Brian W. Instability of magneto-acoustic waves in low-pressure plasmas (AIAA J, TN) 153
Richmond, Robert G. (JSR; see Warren, Carlos S.)
Rider, L. Relative motion in the vicinity of a ballistic missile (JSR, EN) 1115
Rigali, D. J. and Feltz, L. V. High-speed monorail rocket sleds for aerodynamic testing at high Reynolds numbers (JSR) 1341
——(AIAA J, TN; see Touryan, K. J.)
——(AIAA J, TC; see Touryan, K. J.)
Rindal, R. A. (AIAA J, TC; see Kendall, R. M.)
——**and Moyer, Carl B.** Comment on "Carbon-silica reaction in silica-phenolic composites" (AIAA J, TC) 991
Riney, T. D. and Halda, E. J. Effectiveness of meteoroid bumpers composed of two layers of distinct materials (AIAA J) 338
Rishel, R. W. Optimal terminal guidance of an air-to-surface missile (JSR) 649
Rivers, W. J. Transient conduction method of evaluating thermal protection materials (JSR, EN) 741
Roache, P. J. (AIAA J; see Knapp, C. F.)
——Reply by author to A. Michalke (AIAA J, TC) 1631
Robe, T. R. Stability of two tethered unsymmetrical earth-pointing bodies (AIAA J) 2282
Roberson, Robert E. Kinematical equations for bodies whose rotation is described by the Euler-Rodrigues parameter (AIAA J, TN) . 916
——Torque on a satellite in a general gravitational field (AIAA J, TC) 572
Robinson, E. Limited testing of precracked ceramic rocket nozzles (JSR) 1400
Rodden, J. J. (JSR; see Bowers, J. L.)
Rogero, R. S. (AIAA J; see Clayton, R. M.)
Rogers, Charles W. Advanced-composite-material application to aircraft structures (JA) 311
Rom, Arnold. (AIAA J; see Deprit, Andre)
Rom, Josef. Study of similarity of high-temperature, turbulent jets (AIAA J, TN) 1368
——(AIAA J, TN; see Seginer, A.)
Rose, Peter H. (AIAA J; see Leonard, R. Leon)
Rose, William C., Murphy, John D., and Watson, Earl C. Interaction of an oblique shock wave with a turbulent boundary layer (AIAA J, TN) 1792
Rosen, Robert. (AIAA J, TN; see Bush, William B.)
Rosenbaum, Harold. Some numerical solutions of the rotational Euler equations (AIAA J) 320
Rosenbaum, Richard. Rapid determination of near-optimum linear pitch programs for rocket boosters (JSR, EN) 351
Rosenshine, Matthew. Communications constraint in the air traffic control system (JA) 355
Rosing, S. L. and Bursnall, W. J. Analysis and comparison of spacecraft resources forecasting techniques for unmanned missions (JSR) 522
Roskam, J., Holgate, T., and Shimizu, G. Elastic wind-tunnel models for predicting longitudinal stability derivatives of elastic airplanes (JA) 543
Rosner, Daniel E. and Allendorf, H. Donald. Comparative studies of the attack of pyrolytic and isotropic graphite by atomic and molecular oxygen at high temperatures (AIAA J) 650
Ross, Edward W., Jr. Membrane frequencies for spherical shell vibrations (AIAA J) 803
Ross, Robert J. (AIAA J, TN; see Kao, Jao-Shiun)
Rossi, F. S. (JSR; see Valentine, R. S.)
Rozendaal, H. L. (AIAA J; see Jezewski, D. J.)

Rubin, S. G. (AIAA J; see Rudman, S.)
——**and Falco, Robert.** Plane laminar jet (AIAA J, TN)..... 186
Rudman, S. and Rubin, S. G. Hypersonic viscous flow over slender bodies with sharp leading edges (AIAA J)..... 1883
Ruiz-Urbieta, M. (JA; see Scott, C. J.)
Rungaldier, H. (AIAA J; see Vogenitz, F. W.)
Russell, Charles R. (JSR, EN; see Miller, Richard H.)
Russell, Larry D. and Beam, Benjamin H. Thermodielectric radiometer (JSR, EN)..... 1501
Russell, Lynn D. and Chapman, Alan J. Analytical solution for transient flow of energy in a one-dimensional radiating fin (AIAA J) 90
Ryan, N. W. (AIAA J; see Baer, A. D.)
——(AIAA J, TN; see Oberg, C. L.)
——(AIAA J; see Oberg, C. L.)
Saarlas, M. Calculation of the wall-temperature distribution in transpiration cooling (AIAA J, TN)..... 1608
Sabroff, A. E. Advanced spacecraft stabilization and control techniques (JSR, SA)..... 1377
Sadeh, W. Z. Reply by author to the comments by C. W. Bert, B. I. Hyman, and F. Y. M. Wan (AIAA J, TC)..... 569
Sadowski, Thomas J. (JH, Vol. 2; see Davison, W. Richard)
Sagartz, Mathias J. and Forrestal, Michael J. Membrane response of a two-layered, circular shell including the effects of an interlayer bond (AIAA J, TN)..... 1816
Sagirow, P. (AIAA J, TN; see Hofer, E.)
Salama, Ahmed E. (AIAA J, TN; see Brown, John E.)
Saljnikov, V. and Djordjević, V. An equation of the theory of the boundary layer on rotating airfoils (AIAA J, TN)..... 1567
Salmon, Martin A. Comment on "A comparative study of numerical methods of elastic-plastic analysis" (AIAA J, TC)..... 1438
Salomon, Phil M. (JSR; see Birnbaum, Morris M.)
Salser, G. E. (AIAA J, TN; see Dauerman, L.)
——(AIAA J, TN; see Ray, A. B.)
Salzman, A. (JA; see Krenkel, A. R.)
——**and Patel, Sharad A.** Natural frequencies of orthotropic circular plates of variable thickness (AIAA J, TN)..... 1625
Salzman, P. K. (AIAA J; see Elwell, R. B.)
Salzman, R. N. (AIAA J; see Wilkinson, J. P. D.)
Samuelson, Lars Ake. Creep buckling of an elastic-plastic cylindrical shell (AIAA J, TN)..... 2440
Samurin, Norman A. (AIAA J; see McAlevy, Robert F., III)
Sandborn, V. A. (JA, EN; see Liu, C. Y.)
——(AIAA J, TN; see Baldwin, L. V.)
Sandri, R. An efficiency criterion for superorbital rocket propulsion systems (JSR, EN)..... 216
Sankar, T. S. (AIAA J; see Ariaratnam, S. T.)
Sarofim, Adel F., Hottel, Hoyt C., and Fahimian, Edward J. Scattering of radiation by particle layers (AIAA J)..... 2262
Sartory, W. K. (AIAA J, TC; see Chang, T. S.)
Sawyer, Robert F., McMullen, E. T., and Purgalis, Peteris. Hydrazine-chlorine pentafluoride reaction in a laboratory rocket combustor (AIAA J)..... 2111
——Theoretical effect of nonequilibrium combustion on N_2H_4/N_2O_4 propellant performance (JSR, EN)..... 116
Scale, E. (AIAA J; see Schuster, D. M.)
Scala, Sinclaire M. and Gordon, Paul. Solution of the time-dependent Navier-Stokes equations for the flow around a circular cylinder (AIAA J)..... 815
Schaefer, John W. and Flood, Donald T. High-enthalpy re-entry simulation for planetary return missions (JSR, EN)..... 1108
Schaff, A., Jr. Test facility for 5000-Mw nuclear rocket propulsion modules (JSR, EN)..... 222
Schaub, U. W. Experimental investigation of flow distortion in fan-in-wing inlets (JA)..... 473
Schechter, Hans B. Three-dimensional nonlinear stability analysis of the sun-perturbed earth-moon equilateral points (AIAA J).... 1223
Schetz, Joseph A. (JSR, EN; see Waltrup, Paul J.)
——**Weinraub, Robert, and Mahaffey, Raymond E., Jr.** Supersonic transverse injection into a supersonic stream (AIAA J, TN)..... 933
——Turbulent mixing of a jet in a coflowing stream (AIAA J, TN).. 2008
Schindler, G. M. Natural geometry of orbiting structures (AIAA J, TN)..... 566
Schlack, A. L., Jr. and Kessel, P. G. Gyroscopically induced vibrations of plates and membranes (AIAAJ)..... 2360
Schmidt, Carl F. Irony and hope (JA)..... 1
Schmidt, Fred W. and Springer, George S. Comment on "Forces on spheres inside diffusers" (AIAA J, TC)..... 1436
Schmidt, George T. (JSR; see Brock, Larry D.)
Schmit, L. A., Bogner, F. K., and Fox, R. L. Finite deflection structural analysis using plate and shell discrete elements (AIAA J).... 781
——(AIAA J, TN; see Monforton, G. R.)
Schmitendorf, W. E. Comment on "A test for the sign of the second variation" (AIAA J, TC)..... 1629
Schmitt, Heinz W. (AIAA J, TN; see Forrestal, Michael J.)
——(AIAA J, TC; see Forrestal, Micheal J.)
Schneider, Alan M. Suboptimal flight plans for injection of synchronous satellites (JSR, EN)..... 236
Schneider, P. J., Dolton, T. A., and Reed, G. W. Mechanical erosion of charring ablators in ground-test and re-entry environments (AIAA J)..... 64
——**and Maurer, R. E.** Coolant starvation in a transpiration-cooled hemispherical shell (JSR, EN)..... 751
Schneider, Wilhelm. Asymptotic behavior of hypersonic flow over blunted slender wedges (AIAA J, TN)..... 2235
Schoenman, L. and Block, P. Laminar boundary-layer heat transfer in low-thrust rocket nozzles (JSR)..... 1082
Schornhorst, J. R. and Viskanta, R. Effect of direction and wavelength dependent surface properties on radiant heat transfer (AIAA J)..... 1450
Schorr, Charles J. Pressure ratio correction factor when utilizing the hydraulic analogy (JSR, TC)..... 1119
Schram, Jeffrey W. and Reyle, Stanley P. A three-dimensional dynamic analysis of a towed system (JH, Vol. 2)..... 213
Schubert, Gerald. Flow near the intersection of a wall and a dividing streamline (AIAA J, TN)..... 549
——Errata: "Flow near the intersection of a wall and a dividing streamline" (AIAA J, TC)..... 1216
Schulte, L. O. and Davin, D. E. Lunar applications of a spent S-IVB/IU stage (LASS) (JSR)..... 510
Schultz, D. N. (JSR; see Chubb, W. B.)
Schumacher, R. N. (AIAA J; see Goldman, R. L.)
Schuster, D. M. and Scala, E. Single and multifiber interactions in discontinuously reinforced composites (AIAA J)..... 527
Schutz, B. E. (AIAA J, TN; see Tapley, B. D.)
Schwartz, H. S. and Spain, R. G. Structural plastic composites incorporating new high modulus fibers (AIAA J)..... 1043
Schwartz, S., Tuckerman, A. J., and Anspach, W. F. Development of self-scalant techniques for micrometeoroid puncture of aerospace vehicles (JSR)..... 253
Schweitzer, S. (AIAA J; see Cohen, Ira M.)
Scofield, Harold N. A simplified explicit guidance scheme for orbital injection (JSR)..... 1309
Scoggins, James R. Some properties of low-altitude winds at Cape Kennedy, Florida (JSR, EN)..... 1222
Scott, C. J. and Ruiz-Urbieta, M. Experiments on the distributions of local pressure and heat transfer on a grid simulating a parachute fabric (JA)..... 78
Scott, E. D. (JSR; see Bowers, J. L.)
Scott, Ronald F. and Ko, Hon-Yim. Transient rocket-engine gas flow in soil (AIAA J)..... 258
Seader, J. D., Larsen, J. V., Thompson, R. W., and Chidley, J. D. Catalysis of ablation reactions between char and reinforcement (JSR, EN)..... 1362
Seals, R. K., Jr. and Hassan, H. A. Analysis of MPD arcs with nonequilibrium ionization (AIAA J)..... 2273
Sebacher, Daniel I. Diffusive separation in shock waves and freejets of nitrogen-helium mixtures (AIAA J)..... 51
——Reply by author to R. E. Center (AIAA J, TC)..... 2238
Seebass, R. and McLean, F. Edward. Far-field sonic boom waveforms (AIAA J, TN)..... 1153
Seebaugh, William R., Paynter, Gerald C., and Childs, Morris E. Shock-wave reflection from a turbulent boundary layer with mass bleed (JA)..... 461
Seemann, G. R., Thornton, J. A., and Penfold, A. S. Subsonic plasma tunnel for evaluating re-entry flight instrumentation (AIAA J, TN)..... 1592
Segner, A. and Rom, J. Remarks on the application of integral correlation methods in separated flows (AIAA J, TN)..... 2195
Seifert, Howard S. (AIAA J, TN; see James, Robert N.)
Seiger, Harvey N. and Lerner, Stephen. Sealed cells and auxiliary electrodes (JSR, EN)..... 110
Selberg, B. P. and Nicholls, J. A. Drag coefficient of small spherical particles (AIAA J)..... 401
Seltzer, Sherman M. An acceleration vector attitude control system (JSR)..... 666
——(JSR; see Chubb, W. B.)
Seminara, Joseph L. Simulation of manned lunar surface operations (JSR, EN)..... 979
Sennett, Robert E. Effectiveness of multisheet structures for meteoroid impact protection (AIAA J, TN)..... 942
——**and Lathrop, B. L.** Effects of hypervelocity impact on honeycomb structures (JSR, EN)..... 1496
Serebreny, S. M. (JSR, EN; see Blackmer, R. H., Jr.)
Sewall, J. L. (AIAA J; see Egle, D. M.)
Sforza, Pasquale M. and Porter, Lawrence D. Coupled radiation and conduction in free mixing (AIAA J)..... 2267
——Probe interference in hypersonic near wakes (AIAA J, TN).... 1800
——(AIAA J, TN; see Trentacoste, Nicholas)
Sforzini, Richard H. (JSR, EN; see Burkhalter, Johnny E.)
Shaffer, Bernard W. Elastic-plastic stress distribution within reinforced plastics loaded normal to its internal filaments (AIAA J)... 2316
Shah, Haresh C. (AIAA J; see Lepore, John A.)
Shahrokhi, F. and Wolf, P. Numerical solution to the radiation heat-transfer equation for scattering medium (AIAA J)..... 1748
——**and Clark, H. T.** Determination of solar radiation forces on satellite materials (AIAA J, TN)..... 1569
Shang, J. S. and Korkegi, R. H. Investigation of flow separation over a rearward-facing step in a hypersonic stream (AIAA J, TN).. 986
——Compressible, turbulent boundary layer with pressure gradient (AIAA J, TN)..... 1802
Shanklin, R. V., III. (AIAA J; see Wu, Y. C. L.)
Shannon, L. J. and Petersen, E. E. Burning velocity of ammonium perchlorate strands and crystals (AIAA J, TN)..... 1594
Shapiro, Irwin I. (JSR, EN; see Smith, William B.)
Shapiro, Nathan and Healy, Gerald J. A realistic assessment of the vertiport/community noise problem (JA)..... 407
Sharma, O. P. and Penner, S. S. Molecular backscatter of laser radiation from turbulent air (AIAA J, TN)..... 2035
Shaw, Richard Paul. Discontinuities in one-dimensional thermoelastic wave propagation in an inhomogeneous medium (AIAA J, TN)..... 1626
Sheeran, William J. and Dosanjh, Darshan S. Observations on jet flows from a two-dimensional, underexpanded, sonic nozzle (AIAA J, TN)..... 540
——**Hendershot, K. C., and Martin, J. F.** A perforated-wall nozzle for variable Mach number testing (JSR, EN)..... 1101
Shen-D'Gé, Nielkanth J. Structures/materials synthesis for safety of oceanic deep-submergence bottom-fixed manned habitat (JH, Vol. 2)..... 120
Sherer, A. D. (JSR; see Platzer, M. F.)
Sherrieb, Harold E. (JA; see McCormick, Barnes W.)
Shi, Y. Y. (AIAA J, TN; see Pottsepp, L.)
Shih, Jing-shihong. (AIAA J, TN; see Miles, John B.)

Shih, K. T., Pfender, E., Ibele, W. E., and Eckert, E. R. G. Experimental anode heat-transfer studies in a coaxial arc configuration (AIAA J) 1482
Shimizu, G. (JA; see Roskam, J.)
Shinnar, Reuel. (AIAA J, TN; see Wenograd, Joseph)
Shirley, Donna L. and Misselhorn, John E. Instability of high-drag planetary entry vehicles at subsonic speeds (JSR) 1165
Shiver, Warren D. (AIAA J, TN; see Cremers, Clifford J.)
Shorenstein, Michael L. and Probstein, Ronald F. The hypersonic leading-edge problem (AIAA J) 1898
Short, Robert A. (JSR, EN; see Page, Russell J.)
Shreeve, R. P. Supersonic flow from a porous metal plate (AIAA J, TN) 752
Sibulkin, Merwin and Dispaux, Jean-Claude. Numerical solutions for radiating hypervelocity boundary-layer flow on a flat plate (AIAA J) 1098
Sidwell, Kenneth W. (JA; see Ii, Jack Morito)
Siebert, L. D. and Geister, D. E. Pulsed holographic interferometry vs Schlieren photography (AIAA J, TN) 2194
Siekmann, Julius (JSR, EN; see Bauer, Helmut F.)
Silver, A. H. (JSR; see Murch, C. K.)
Silver, Brent W. Grand tours of the Jovian planets (JSR) 633
Simitses, George J. Buckling of eccentrically stiffened cylinders under torsion (AIAA J) 1856
——Reply by author to R. M. Jones' "Comment on 'A note on the general instability of eccentrically stiffened cylinders' " (JA, TC) .. 320
Simmons, J. A., Gift, R. D., Spurlock, J. M., and Fletcher, R. F. Reactions and expansion of hypergolic propellants in a vacuum (AIAA J) 887
Simpson, Roger L. and Whitten, Derrill G. Preston tubes in the transpired turbulent boundary layer (AIAA J, TN) 1776
Simpson, R. W. Computerized schedule construction for a VTOL airbus transportation system (JA) 299
Singer, Josef and Bendavid, Dror. Buckling of electroformed conical shells under hydrostatic pressure (AIAA J) 2332
Singleton, Robert E. Similarity solutions of the three-dimensional, compressible, laminar boundary layer in Cartesian coordinates (AIAA J, TN) 760
——Quasi-similar solutions for the general three-dimensional stagnation point (AIAA J, TN) 973
Sinha, R. (AIAA J, TN; see Zakkay, V.)
Sirignano, W. A. (AIAA J; see Krier, H.)
Sirounian, V. (JSR, EN; see Wasko, P. E.)
Sisto, Fernando, Jr. (JH, Vol. 1; see Tillman, Edward S., Jr.)
Skinner, John H., Jr. Friction and heat transfer in the flow induced by a subsonic heat source (AIAA J, TN) 1374
Sleeper, R. K. and Lester, H. C. A dynamic stability study of a centrifuge-equipped space station (JSR) 1432
Small, Norman C. (JSR; see Tsui, Tien-Yu)
Small, R. L. (AIAA J, TN; see Valsamakis, E. A.)
Smetana, F. O. (AIAA J, TN; see Pavagadhi, L. J.)
Smith, A. M. (AIAA J; see Wood, B. E.)
Smith, A. M. O. (JA; see Cebeci, Tuncer)
Smith, Bert L. and Haft, Everett E. Natural frequencies of clamped cylindrical shells (AIAA J, TN) 720
Smith, C. V. Comment on "Large deflection of rectangular sandwich plates" (AIAA J, TC) 574
——Large deflections of circular sandwich plates (AIAA J, TN) 721
Smith, David B. (JSR; see Dickerson, William D.)
Smith, Donald W. Hand-held sextant: Results from Gemini XII and flight simulator experiments (JSR) 655
Smith, E. B. (AIAA J; see Fendell, Francis E.)
Smith, H. W. (AIAA J, TN; see Chapel, R. E.)
Smith, Peter C. Radiative effects in the precursor region of high-speed wedge flow (AIAA J, TN) 936
Smith, R. C. and Elliott, G. A. Skin-friction measurements in strong interaction (AIAA J, TN) 2189
Smith, Robert C., Jr. Effect of AP particle size on solid-propellant combustion efficiency (JSR, EN) 1360
Smith, Ralph E. and Lum, Evan L. S. Linear optimal theory applied to active structural bending control (JA) 479
Smith, Robert Dan. Comments on "Natural vibrations of a stiffened pressurized cylinder with an attached mass" (AIAA J, TC) 575
Smith, T. H. (JSR, EN; see Johnson, R. J.)
Smith, Westcott H. (AIAA J; see McAlevy, Robert F., III)
Smith, William B. and Shapiro, Irwin I. Observations of hysteresis damping in a spinning satellite (JSR, EN) 337
Smrz, John P. (JSR, EN; see Cassanto, John M.)
Snyder, Virgil W. (JSR, EN; see Warner, Gordon G.)
——(JSR, TC; see Warner, Gordon G.)
Snarer, W. T. (JH, Vol. 2; see Thompson, E. R.)
——(AIAA J, TN; see Thompson, E. R.)
Sobierajski, F. (AIAA J, TN; see Dunn, J. C.)
Sodek, Benard A., Jr. Jovian occultation experiment (JSR, EN) ... 461
Sohl, Gordon, Vernon, R. H., Wood, K. G., and Dillon, T. R. Performance of a cesium bombardment ion engine with a self-rectifying discharge and automatic controls (JSR) 165
——(JSR, EN; see Fosnight, V. V.)
Soland, Duane E. (JSR; see Gilchrist, James D.)
Solbes, Albert. Radiation operator in nonequilibrium plasmas (AIAA J, TN) 737
Solomon, Jay M. Comment on "Pressure distributions on sharp cones in rarefied hypersonic flow" (AIAA J, TC) 990
Solomon, Louis. (AIAA J, TC; see Fendell, Francis)
Sommers, R. D. (JSR, EN; see Mark, Herman)
Sotter, J. G. (AIAA J; see Clayton, R. M.)
Sovie, Ronald J. (AIAA J; see Connolly, Denis J.)
Spadaccini, Louis J. and Chinitz, Wallace. Supersonic combustion of propane (AIAA J, TN) 1391
Spaid, F. W. and Zukoski, E. E. A study of the interaction of gaseous jets from transverse slots with supersonic external flows (AIAA J) .. 205
Spain, R. G. (AIAA J; see Schwartz, H. S.)
Spangler, J. G. and Wells, C. S., Jr. Effects of freestream disturbances on boundary-layer transition (AIAA J, TN) 543
——Reply by authors to J. A. Miller (AIAA J, TC) 2461
Spangler, Selden B. (JA; see Mendenhall, Michael R.)
Speiser, R. C. (JSR, EN; see Fosnight, V. V.)
Speyer, Jason L. and Bryson, Arthur E., Jr. A neighboring optimum feedback control scheme based on estimated time-to-go with application to re-entry flight paths (AIAA J) 769
——**and Bryson, Arthur E., Jr.** Optimal programming problems with a bounded state space (AIAA J) 1488
Spiegler, Eliezer and Michaeli, Ephraim. Determination of the interior ballistic properties of solid propellants from progressive burning grains data (JSR, EN) 623
Spillers, W. R. A cylindrically orthotropic elastic thick ring (AIAA J, TN) 1195
Spitzer, Cary R. (AIAA J; see Wilson, R. Gale)
Springer, George S. (AIAA J, TC; see Schmidt, Fred W.)
Spurlock, J. M. (AIAA J; see Simmons, J. A.)
Squire, William. Comment on "Approximate theory for terminal velocity of a freely falling body" (JSR, TC) 368
Sreekanth, A. K. Experiments on impact probes in a rarefied subsonic gas stream (AIAA J, TN) 927
Srinivasan, P. (AIAA J, TN; see Dasarathy, B. V.)
——(AIAA J, TN; see Bapat, V. Achyuta Rao)
Srode, W. E. (JSR, EN; see Weil, W. M.)
Staggs, John F., Gula, William P., and Kerslake, William R. Distribution of neutral atoms and charge-exchange ions downstream of an ion thruster (JSR) 159
Stainback, P. Calvin and Jones, Robert A. Derivation and tests of a constant Newtonian pressure gradient body (AIAA J, TN) 1788
Stanton, E. L. (AIAA J; see Fox, R. L.)
Stanton, George E. New designs for commercial aircraft wheels and brakes (JA) 73
Stanwood, Richard H. Design and implementation of an integrated information system (JSR, EN) 361
Stapleford, Robert L. and Ashkenas, Irving L. Effects of manual altitude control and other factors on short-period handling quality requirements (JA) 41
Stark, Robert L. (JSR, EN; see Starner, Keith E.)
Stark, Valter J. E. Use of complex cross-flow representation in nonplanar oscillating-surface theory (AIAA J) 1535
——(AIAA J, SA; see Landahl, Marten T.)
Starner, Keith E. and Stark, Robert L. Effects of roughness on rear-surface mirror satellite coatings (JSR, EN) 125
Starrett, P. S. (JSR; see Werner, J. B.)
Stearman, R. O. (AIAA J; see Carter, L. L.)
Stebbins, Frederick J. (AIAA J; see Stricklin, James A.)
Stechman, R. Carl. (JSR; see Juran, Warren)
Stein, Bland A. and Pride, Richard A. Effects of 450° and 600°F exposures on the mechanical properties of polyimide/glass-fiber honeycomb sandwiches and laminated beams (JA) 35
Stein, Manuel. Some recent advances in the investigation of shell buckling (AIAA J) 2339
——Reply by author to L. J. Hart-Smith (AIAA J, TC) 2460
Steinheuer, J. Similar solutions for the laminar wall jet in a decelerating outer flow (AIAA J, TN) 2198
Steinle, M. E. (AIAA J; see Brown, R. S.)
Stengel, Robert F. Comments on "Approximate theory for terminal velocity of a freely falling body" (JSR, TC) 367
Stenning, A. H. (JA; see Plourde, G. A.)
Stern, Ivan. Atmospheric entry and heating of micron-size particles (JSR, EN) 1350
Stern, Robert J. Determination of the times of mutual visibility between two earth satellites (JSR, EN) 345
Stevenson, T. N. Inner region of transpired turbulent boundary layers (AIAA J, TN) 553
——Reply by author to T. J. Dahm and R. M. Kendall (AIAA J, TC) 1824
Stewart, Willie J. (JSR; see Lohr, Jerome J.)
Stewartson, K. Comment on "An experimental model for the sharp flat plate in rarefied hypersonic flow" (AIAA J, TC) 1628
Stilley, George D. Reply by author to R. F. Stengel and W. Squire (JSR, TC) 368
Stockham, Leo W. and Love, Tom J. Radiative heat transfer from a cylindrical cloud of particles (AIAA J) 1935
Stoike, David A. and Karplus, Walter J. Heat transfer in pyrolytic graphite: A hybrid computer simulation (JSR, EN) 1491
Stokes, A. D. (AIAA J, TN; see Campbell, B.)
Stonesifer, J. C. (JSR, EN; see Hammack, J. B.)
Strand, T. and Wei, M. H. Y. Linearized inviscid-flow theory of two-dimensional thin jet penetration into a stream (JA) 551
Strauss, Eric L. Performance of superlight ablators in simulated Mars entry, including micrometeoroid damage (JSR, EN) 1357
Strauss, William A. Investigation of the detonation of aluminum powder-oxygen mixtures (AIAA J) 1753
Strehlow, Roger A. and Maxwell, Kenneth R. Two-dimensional diffuse shock waves in carbon dioxide (AIAA J, TN) 2431
Stricklin, James A., Haisler, Walter E., MacDougall, Hugh R., and Stebbins, Frederick J. Nonlinear analysis of shells of revolution by the matrix displacement method (AIAA J) 2306
——Integration of area coordinates in matrix structural analysis (AIAA J, TN) 2023
——Reply to F. V. Filho (AIAA J, TC) 572
Strumpf, Albert. Cruising and hovering response of a tail-stabilized submersible (JH, Vol. 1) 89
Stubberud, Allen R. (JSR, EN; see Watson, James W.)
Stuiver, Willem. Graphical method for analysis of matched pulses (AIAA J, TN) 762
Subramanian, G. (AIAA J, TN; see Murthy, P. N.)
Suess, R. P. (JSR; see Weckesser, L. B.)
Sullivan, John J. Evaluation of the computational errors of strapdown navigation systems (AIAA J) 312

Summerfield, M. (AIAA J; see Krier, H.)
——(AIAA J; see Ohlemiller, T. J.)
Sumsion, H. T. Vacuum effects on fatigue properties of magnesium and two magnesium alloys (JSR) 700
Sun, Fang Toh. Analysis of the optimum two-impulse orbital transfer under arbitrary terminal conditions (AIAA J) 2145
Sundaram, T. R. Relaxation entropy layer for a convex corner in a linearized supersonic flow (AIAA J, TN) 907
Sussman, Mark B. A remark concerning engine-inlet distortion (JA, TC) 95
Sutherland, Arthur A., Jr. The Kalman filter in transfer alignment of inertial guidance systems (JSR) 1175
Sutton, Emmett A. Chemistry of electrons in pure-air hypersonic wakes (AIAA J) 1873
Sutton, George W. and Camac, Morton. Wake-temperature turbulent fluctuation decay rates deduced from O_2 radiation (AIAA J) 2402
——Molecular mixing lengths for turbulent wakes (AIAA J, TN) ... 1403
——Effect of chemical reaction fluctuations on turbulent wakes (AIAA J, TN) 2438
Swaim, Robert L. and Connors, Alonzo J. Gust velocity spatial distribution effects on lateral-directional response of VTOL aircraft (JA) 53
——Launch vehicle mode interaction (AIAA J, TN) 753
——Structures, structural dynamics, and holography (AIAA J, TC) .. 1215
Swanson, Carl J., Hall, David B., and Kaufman, Stanley. Modification of elastic properties in structural analysis by force method (AIAA J, TN) 1189
Swatik, Donald S. and Hendricks, Charles D. Production of ions by electrohydrodynamic spraying techniques (AIAA J, TN) 1596
Swenson, E. H. (JSR, EN; see Black, W. L.)
Swinson, W. F. (JSR; see Braswell, D. W.)
Switzky, Harold. Designing for minimum flexibility or weight (JSR, EN) 1473
Taggart, Robert. Auxiliary power for man in the sea (JH, Vol. 1) .. 60
Taitel, Yehuda and Hartnett, J. P. Application of Rosseland approximation and solution based on series expansion of the emission power to radiation problems (AIAA J) 80
Tajima, Y. A. (AIAA J; see Dauerman, L.)
Takeno, Tadao. (AIAA J, TN; see Tsuji, Hiroshi)
Tang, Sam. Thermal stresses in hollow graphite cylinders with asymmetric heating (JSR, EN) 611
——Thermal stresses in temperature-dependent isotropic plates (JSR, EN) 987
——Errata: "Thermal stresses in temperature-dependent isotropic plates" (JSR, TC) 1248
Tangler, James L. (JA; see McCormick, Barnes W.)
Tapley, B. D. (JSR; see Lewallen, J. M.)
——**and Schutz, B. E.** Persistent solar influenced libration point motion (AIAA J, TN) 1405
——(AIAA J, TC; see Lastman, G. J.)
Tardif, L. and Dionne, J. G. G. Density distributions in turbulent and laminar wakes (AIAA J, TN) 2027
Tate, Eric. (AIAA J; see Zauderer, Bert)
Taub, Paul A. Hypersonic, low-density sphere and cone drag correlations (AIAA J, TN) 1577
Tauber, Michael E. (AIAA J, TN; see Canning, Thomas N.)
——(AIAA J, TC; see Wilkins, Max E.)
Taulbee, Dale B. and Patel, Hirabhai N. Boundary layer on the wall of a curved converging channel (AIAA J, TN) 1808
Taylor, J. E. Optimum design of a vibrating bar with specified minimum cross section (AIAA J, TN) 1379
——**and Liu, C. Y.** Optimal design of columns (AIAA J) 1497
Taylor, Maynard F. Heat-transfer predictions in the cooling passages of nuclear rocket nozzles (JSR, EN) 1353
Taylor, R. E. (AIAA J; see Denzel, D. L.)
Taylor, Thomas D. and Hudgins, Henry E., Jr. Interaction of a blast wave with a blunt body traveling at supersonic speeds (AIAA J) .. 198
Temkin, Samuel. Mode coupling in solid-propellant rocket motors (AIAA J, TN) 560
——Large-amplitude transverse instability in rocket motors (AIAA J, TN) 1202
Templeman, J. E. and Parker, R. H. Boeing/Sperry automatic landing system 727 airplane (JA) 285
Tene, Yair. Deformation of asymmetrically loaded, symmetrically prestressed orthotropic shells of revolution (AIAA J, TN) 1599
Tennekes, H. Outline of a second-order theory of turbulent pipe flow (AIAA J) 1735
Theisen, Jerome G. and Haas, John. Turbulence upset and other studies on jet transports (JA) 344
Thodos, George. (JSR, EN; see Elzinga, D. Jack)
Thomas, George M. (AIAA J; see Menard, Wesley A.)
Thomas, P. D., Conti, R. J., and Kruger, C. H. Flow over finite bodies with massive injection (AIAA J, TN) 2229
Thompson, E. R. and Snyder, W. T. Drag reduction of a non-Newtonian fluid by fluid injection at the wall (JH, Vol. 2) 177
——**and Snyder, W. T.** Asymptotic non-Newtonian boundary-layer flow with suction (AIAA J, TN) 1804
Thompson, R. W. (JSR, EN; see Seader, J. D.)
Thomson, A. (AIAA J; see Boynton, F. P.)
Thornton, J. A. (AIAA J, TN; see Seemann, G. R.)
Thurston, S. and Evanbar, M. S. Ducted propellers for high-speed underwater propulsion (JH, Vol. 2) 145
T'ien, J. S. (AIAA J; see Krier, H.)
Tillman, Edward S., Jr. and Sisto, Fernando, Jr. Deflection and diffusion of a rectangular jet by the edge suction effect (JH, Vol. 1) 108
Ting, D. (JSR; see Lankton, C. S.)
Tinklepaugh, Kenneth N. Personnel thermoprotective systems—II (JA, EN) 317
Tinsley, Charles R. (JSR, EN; see Burkhalter, Johnny E.)
Tirumalesa, Duvvuri. An experimental study of hypersonic rarefied flow over a blunt body (AIAA J, TN) 369
——Rotational relaxation in hypersonic low-density flows (AIAA J, TN) 765
Tomazic, William A., Conrad, E. William, and Godwin, Thomas W. M-1 injector development—philosophy and implementation (JSR) .. 282
Toor, J. S. and Viskanta, R. Effect of direction dependent properties on radiation interchange (JSR, EN) 742
Toschi, R. (AIAA J; see Bertolini, E.)
Touryan, K. J., Clark, G. E., and Rigali, D. J. Pressure distribution on cone-cylinders in hypersonic flow (AIAA J, TN) 739
——**Clark, G. E., and Rigali, D. J.** Erratum: "Pressure distribution on cone-cylinders in hypersonic flow" (AIAA J, TC) 1824
Trask, Russell L. (JSR, EN; see Picard, Jean-Paul)
Travers, Arthur. (JSR; see Clark, James W.)
Trentacoste, Nicholas and Sforza, Pasquale M. Some remarks on three-dimensional wakes and jets (AIAA J, TN) 2454
Tripp, Charles N. Volatile-liquid pressurization (JSR, EN) 1477
Trubert, Marc R. An analog technique for the equalization of multiple electromagnetic shakers for vibration testing (JSR) 1438
Trubridge, G. F. P. (JSR; see Darwell, H. M.)
Tsao, C. H. and Ching, A. Tests of, and semiempirical formulas for, instability of longitudinally stiffened shells (JSR) 196
Tsui, Edward Y. W. and Cheney, James A. Flexibility of axisymmetric shells (JSR) 969
Tsui, Tien-Yu and Small, Norman C. Hydroelastic oscillations of a liquid surface in an annular circular cylindrical tank with flexible bottom (JSR) 202
Tsuji, Hiroshi and Takeno, Tadao. Propagation of pressure waves in high-frequency combustion oscillation (AIAA J, TN) 730
Tuckerman, A. J. (JSR; see Schwartz, S.)
Tutt, G. E. and Jansen, J. A. Dynamics of the Apollo electromechanical actuator (JSR) 541
Ugural, A. C. and Cheng, Shun. Buckling of composite cylindrical shells under pure bending (AIAA J) 349
Ullock, M. H. Pulse sustaining of low-altitude cruise missiles (JSR, EN) 1220
Utku, Senol and Melosh, Robert J. Behavior of triangular shell-element stiffness matrices associated with polyhedral deflection distributions (AIAA J, TN) 374
——(AIAA J, TN; see Akyuz, Fevzican A.)
——Explicit expressions for triangular torus element stiffness matrix (AIAA J, TN) 1174
Urrutia, J. L. (AIAA J; see Da-Riva, I.)
Vachon, R. I. (JSR; see Wood, L. H.)
Vafakos, W. P. (AIAA J; see Nissel, N. B.)
Vagners, J. Modified long-period behavior due to tesseral harmonics (AIAA J) 1229
Valentine, R. S., Rossi, F. S., and Kromrey, R. V. Fluid dynamic effects on Apollo engine pressure spikes (JSR) 31
Valerio, J. and McKeown, D. Sputtering at satellite altitudes (AIAA J, TN) 1589
Valor, N. H. (AIAA J; see Elwell, R. B.)
Valsamakis, E. A., Small, R. L., and Bostick, W. H. Observation of plasma vortices and their magnetic fields inside a conical theta-pinch (AIAA J, TN) 1161
Van Atta, C. W. Experiments on vortex shedding from yawed circular cylinders (AIAA J, TN) 931
Vander Velde, W. E. (JSR; see Potter, J. E.)
van Driest, E. R. and Blumer, C. B. Boundary-layer transition at supersonic speeds: Roughness effects with heat transfer (AIAA J) 603
Van Gelder, A. Final value optimization of systems with bounded controller and noisy measurements (AIAA J) 2001
Van Patten, Richard A. (JSR; see DeBra, Daniel B.)
Van Sant, J. H. and Pitts, J. H. Comparison of pressure loss predictions determined from bulk two-dimensional adiabatic flow conditions in tubes (AIAA J, TN) 921
Vargo, Louis G. Vehicle-mass-exhaust velocity variations in free space (AIAA J, TN) 1373
Vasantha, S. and Prabhu, A. Compressible wakes in pressure gradients (AIAA J, TN) 2224
Vaughn, Harold R. Boundary conditions for persistent roll resonance on re-entry vehicles (AIAA J) 1030
Veilleux, Eugene D. Use of thermal greases to conduct heat across sheet-metal interfaces (JSR, EN) 1238
Velkoff, Henry R. and Ketcham, Jeffry. Effect of an electrostatic field on boundary-layer transition (AIAA J, TN) 1381
Vernon, R. H. (JSR; see Sohl, Gordon)
Vetsch, G. J. (JA; see Krachmalnick, F. M.)
Viegas, John R. and Kruger, Charles H. Effect of multispecies ionization on electrical conductivity calculations (AIAA J, TN) ... 1193
Vincenti, Walter G. (AIAA J, TN; see Cogley, Allen C.)
Viskanta, R. (JSR; see Merriam, R. L.)
——(JSR, EN; see Toor, J. S.)
——(AIAA J, TN; see Heinisch, R. P.)
——(AIAA J; see Schornhorst, J. R.)
Viventi, Robert, Jr. and Isley, William C. Design and demonstration of a radioisojet (JSR) 672
Vogel, Uriel. Characteristics of low pressure probes in nonisotropic environments (AIAA J, TN) 1798
Vogenitz, F. W., Bird, G. A., Broadwell, J. E., and Rungaldier, H. Theoretical and experimental study of rarefied supersonic flows about several simple shapes (AIAA J) 2388
Vojvodich, N. S. (JSR; see Coleman, W. D.)
Vonbun, F. O. and Mengel, J. T. Tracking and communications for planetary manned mission (JSR, EN) 863
von Elbe, Guenther and McHale, Edward T. Extinguishment of solid propellants by rapid depressurization (AIAA J, TN) 1417
Von Rosenberg, C. (AIAA J, TN; see Blick, E. F.)
Wagner, Richard D., Jr. (AIAA J, TN; see Weinstein, Leonard M.)
Walden, Harvey. Improvement of mean orbital elements for Vinti's spheroidal satellite theory (AIAA J) 1305
Waldo, Robert D. Some special problems in surface effect ships (JH, Vol. 2) 152

Walker, I. F. M. (JSR; see Hazell, J. F.)
Wall, John K. Meteoroid environment near the ecliptic (AIAA J).. 1013
Wallace, T. J. (JA; see Beerbower, A.)
Wallis, F. R. Initial pressure peaks in rocket motors and interruption by venting (JSR, EN)..... 481
Walters, Robert R. (JA; see Blick, Edward F.)
——(AIAA J, TN; see Blick, Edward F.)
Waltrup, Paul J., Hall, Douglas G., and Schetz, Joseph A. Flowfield in the vicinity of cylindrical protuberances on a flat plate in supersonic flow (JSR, EN)..... 127
Wan, Frederic Y. M. Comment on "A note on the general solution of the two-dimensional linear elasticity problem in polar coordinates" (AIAA J, TC)..... 569
Wang, Han-chung and Pao, Yen-ching. Radial deformations of cylindrical shells with variable wall thickness (AIAA J, TN)..... 1779
Wang, James T. S. (JSR, EN; see Bauer, Helmut F.)
Wang, Leon Ru-Liang. Boundary disturbance and pressure rate on the buckling of spherical caps (AIAA J, TN)..... 2192
Ward, J. W. and King, H. J. Mercury hollow cathode plasma bridge neutralizers (JSR)..... 1161
Ward, K. E. Contour plotting for the transonic flight-test drag polar (JA, EN)..... 191
Ward, L. Christopher and Pugh, Philip G. Shock standoff distances of blunt and sharp cones (AIAA J, TN)..... 2018
Warner, Gordon G. and Snyder, Virgil W. A re-evaluation of jet damping (JSR, EN)..... 364
——Reply by authors to P. Katz and to T. Papis (JSR, TC)..... 1247
Warnock, A. S. (AIAA J; see Busch, C. W.)
Warren, Carlos S., Lill, Joseph C., Richmond, Robert G., and Davis, William G. Radiation dosimetry on the Gemini and Apollo missions (JSR)..... 207
Wasko, P. E., Petersen, E. V., and Sirounian, V. On the role of the satellite for meteorology (JSR, EN)..... 225
Wasynczuk, C. A. (JSR; see Feng, T. Y.)
Watson, Earl C. (AIAA J, TN; see Rose, William C.)
Watson, Harold M. (JSR, EN; see Buckingham, Arthur G.)
Watson, James W. and Stubberud, Allen R. Atmospheric entry employing range sensitivity (JSR, EN)..... 983
Watson, Richard W. (AIAA J; see Ribovich, John)
Waugh, John G. Water-entry pitch modeling (JH, Vol. 2)..... 87
Way, S. Electromagnetic propulsion for cargo submarines (JH, Vol. 2)..... 49
Webb, George R., Bass, Bennett R., Goodman, Charles H., Goodman, Malcolm A., and Land, Karl M. Reply by authors to R. H. Plaut, and to P. C. Parks and A. J. Pritchard (AIAA J, TC)..... 1438
Webb, W. H. Shear stress distribution in confined equilibrium turbulent flows (AIAA J, TN)..... 1176
——An approximate pressure-angle relation for the axisymmetric supersonic near wake (AIAA J, TN)..... 1427
——Comments on Schlieren measurements of the inviscid hypersonic wake of a sphere (AIAA J, TC)..... 2239
Webster, L. F. Experience with space simulation in the development of space rocket propulsion systems (JSR)..... 293
Wecker, M. S. Comment on "Dynamics of a radiating gas with application to flow over a wavy wall" (AIAA J, TC)..... 571
Weckesser, L. B., Suess, R. P., and Hallendorff, R. H. Environmental limitations of radomes (JSR)..... 762
Weeks, George E. (AIAA J, TN; see Dixon, Sidney C.)
Wei, M. H. Y. (JA; see Strand, T.)
Weidman, Deene J. A simplified procedure for determining the perforation limits for thin plates (AIAA J, TN)..... 1622
Weil, W. M., Srode, W. E., and Burrows, R. M., Jr. An inertial test laboratory 1100 ft below the earth's surface (JSR, EN)..... 478
Weinraub, Robert. (AIAA J, TN; see Schetz, Joseph A.)
Weinstein, Leonard M. (JSR, EN; see Bushnell, Dennis M.)
——(AIAA J, TC; see Bertram, M. H.)
——**Wagner, Richard D., Jr., and Ocheltree, Stewart L.** Electron beam flow visualization in hypersonic helium flow (AIAA J, TN).. 1623
Weiss, R. F. and Nelson, W. Upstream influence of the base pressure (AIAA J)..... 466
Weiss, R. O., Hill, M. L., and Keller, C. A. An evaluation of coated B66 columbium alloy at elevated temperatures (JSR, EN).. 215
Weiss, R. R. (JSR; see Abbe, C. J.)
Wells, C. R. and Mitchell, H. P. A mathematic model for flexible response of uprated Saturn I to in-flight winds (JSR)..... 313
Wells, C. S., Jr. and Blumer, C. B. Laminar compressible boundary layer on a blunt body (AIAA J, TN)..... 159
——(AIAA J, TC; see Spangler, J. G.)
——**Harkness, J., and Meyer, W. A.** Turbulence measurements in pipe flow of a drag-reducing non-Newtonian fluid (AIAA J)..... 250
——(AIAA J, TN; see Spangler, J. G.)
——(AIAA J, TC; see Spangler, J. G.)
Welsh, William E., Jr. (AIAA J; see Mirels, Harold)
——(AIAA J; see Ching, A.)
Wendl, M. J. (JA; see Krachmalnick, F. M.)
Wenograd, Joseph and Shinnar, Reuel. Combustion of ammonium perchlorate—some negative conclusions (AIAA J, TN)..... 964
Werner, J. B. and Starrett, P. S. Experimental heat-transfer correlation of a complex spacecraft model (JSR)..... 247
Westkaemper, J. C. Turbulent boundary-layer separation ahead of cylinders (AIAA J)..... 1352
Weynand, Edmund E. (AIAA J, TN; see Lawrence, Roy A.)
Whisnant, J. M. and Anand, D. K. Roll resonance for a gravity-gradient satellite (JSR, EN)..... 743
Whitbeck, R. F. A frequency domain approach to linear optimal control (JA)..... 395
White, Frank M. and Wolf, Dean F. A theory of three-dimensional parachute dynamic stability (JA)..... 86
——An analysis of flat-plate drag with polymer additives (JH, Vol. 2) 181
——Comments on "Generalized law of the wall and eddy-viscosity model for wall boundary layers" (AIAA J, TC)..... 767
White, Richard B. and Landahl, Marten T. Effect of gaps on the loading distribution of planar lifting surfaces (AIAA J)..... 626
——A note on disturbances due to surface slope discontinuities (AIAA J, TN)..... 941
Whitfield, Jack D. (AIAA J, TN; see George, Oscar L., Jr.)
Whitehead, Allen H., Jr. and Keyes, J. Wayne. Flow phenomena and separation over delta wings with trailing-edge flaps at Mach 6 (AIAA J)..... 2380
Whitten, Derrill G. (AIAA J, TN; see Simpson, Roger L.)
Whittier, J. S. (AIAA J; see Lock, M. H.)
Widdows, Harold E. (JSR, EN; see Colp, John L.)
Widhopf, G. F. (AIAA J; see Lederman, S.)
Wienecke, R. Some diagnostic techniques useful for MHD-generator plasmas (AIAA J)..... 1724
Wierum, Frederic A., Jr. (AIAA J, TN; see Frost, Milton A.)
Wilkerson, Harvey J. (AIAA J, TN; see Milligan, Mancil W.)
Wilkes, Perry R. (JSR, EN; see Colp, John L.)
Wilkins, Max E. (AIAA J, TN; see Canning, Thomas N.)
——**and Tauber, Michael E.** Erratum: "Boundary-layer transition on ablating cones at speeds up to 7 km/sec" (AIAA J, TC)..... 2047
Wilkinson, J. P. D., Cappelli, A. P., and Salzman, R. N. Hydroelastic interaction of shells of revolution during water impact (AIAA J)..... 792
Wilkinson, P. R. and East, R. A. Mean properties of a region of separation in laminar hypersonic flow (AIAA J, TN)..... 2183
Willard, Myra T. (JSR, EN; see Bueker, Robert)
Williams, Forman A. (AIAA J; see Kassoy, David R.)
Williams, James C., III. Nonsteady stagnation-point flow (AIAA J, TN)..... 2417
Williams, S. D. (JSR; see Lewallen, J. M.)
Williamson, Dale R. and Likins, Peter W. Phase plane methods for toppling stability analysis of landing spacecraft (JSR)..... 1452
Williamson, W. E. and Fowler, W. T. A segmented weighing scheme for steepest ascent optimization (AIAA J, TN)..... 976
Willig, Danny Jacob. A method of computing indicated airspeed in ground effect (JA, EN)..... 412
Wilson, Daniel S. (AIAA J, TC; see Lederman, Samuel)
Wilson, Donald E. (JSR; see Lohr, Jerome J.)
Wilson, K. H. (AIAA J, TN; see Lasher, L. E.)
Wilson, R. Gale and Spitzer, Cary R. Visible and near-infrared emittance of ablation chars and carbon (AIAA J)..... 665
Wimberly, C. R. Effect of molecular interreflections on a concave wedge in free molecule flow (AIAA J, TN)..... 734
——Convective heating of a yawed concave hemisphere in free molecule flow (AIAA J, TN)..... 2420
Winebarger, Roger M. (JSR, TC; see Mueller, James N.)
Winick, Alexander B. VS/TOL all-weather guidance (JA, EN).... 510
Winkelmann, Allen E. (JSR, TC; see Anderson, John D., Jr.)
Wirsching, Paul H. (AIAA J; see Likins, Peter W.)
Wirtz, Richard A. (AIAA J; see Chen, C. F.)
Witkowski, S. (AIAA J; see Wu, Y. C. L.)
Witmer, E. A. (AIAA J; see Navaratna, D. R.)
——(AIAA J; see Leech, John W.)
Wittliff, Charles E. Correlation of drag coefficients for sharp cones (AIAA J, TN)..... 1430
Wolf, Dean F. (JA; see White, Frank M.)
Wolf, P. (AIAA J; see Shahrokhi, F.)
Wood, B. E. and Smith, A. M. Spectral reflectance of water and carbon dioxide cryodeposits from 0.36 to 1.15 μ (AIAA J)..... 1362
Wood, K. G. (JSR; see Sohl, Gordon)
Wood, L. H., Prasthofer, W. P., and Vachon, R. I. Photographic exploration of Mars with solar-electric propulsion (JSR)..... 503
Woods, W. C., Johnston, P. J., Molloy, J. K., and Henderson, A., Jr. Recent studies of factors affecting high lift-drag ratios at Mach 19 in helium (JSR)..... 90
Woodward, Frank A. Analysis and design of wing-body combinations at subsonic and supersonic speeds (JA)..... 528
Wooldridge, C. E. (AIAA J; see Marxman, G. A.)
Wu, Y. C. L. (AIAA J; see Denzel, D. L.)
——**and Dicks, J. B., Denzel, D. L., Witkowski, S., Shanklin, R. V., III, Zitzow, U., Chang, P., and Jett, E. S.** MHD generator in two-terminal operation (AIAA J)..... 1651
——"Limiting circles" of one-dimensional MHD channel flows (AIAA J, TN)..... 1581
Wutzke, S. A., Pfender, E., and Eckert, E. R. G. Symptomatic behavior of an electric arc with a superimposed flow (AIAA J)..... 1474
——**Pfender, E., and Eckert, E. R. G.** Erratum: "Symptomatic behavior of an electric arc with a super-imposed flow" (AIAA J, TC)..... 2047
Wyman, Charles L. Test performance of an experimental laser radar for rendezvous and docking (JSR)..... 430
Yaggy, P. F. (AIAA J; see McCroskey, W. J.)
Yang, H. T. A vortex method for the study of airplane-missile aerodynamic interference (JA)..... 591
Yankura, George A. (JA; see Otsap, Ben A.)
Yanyecic, G. A. (AIAA J; see Faeth, G. M.)
Zafran, S. (JSR; see Huberman, M. N.)
Zak, Adam R. Structural failure criterion for solid propellants under multiaxial stresses (JSR)..... 265
——Structural analysis of realistic solid-propellant materials (JSR).. 270
Zakkay, V., Sinha, R., and Fox, H. Some remarks on diffusion processes in turbulent mixing (AIAA J, TN)..... 1425
——**and Alzner, Edgar.** Laminar boundary layer with constant wall shear stress (AIAA J, TN)..... 2432
Zarghamee, Mehdi S. Optimum frequency of structures (AIAA J, TN)..... 749
Zauderer, Bert. Experimental study of nonequilibrium ionization in a linear MHD generator (AIAA J)..... 701
——**and Tate, Eric.** Electrical characteristics of a linear, nonequilibrium, MHD generator (AIAA J)..... 1685
Zeamer, Richard J. (AIAA J, TN; see Mayberry, John L.)

Zee, Chong-Hung. Low tangential thrust trajectories—improved first-order solution (AIAA J, TN) 1378
Zelazny, Stephen W. and Kennedy, Lawrence A. Ablation of a spherical body due to a nonuniform surface heat-flux distribution (JSR, EN) 874
Ziegler, F. (AIAA J, TN; see Achenbach, J. D.)
Zimmer, M. F. (AIAA J, TN; see Lepie, A. H.)
Zimmer-Galler, R. Correlations between deflagration characteristics and surface properties of nitramine-based propellants (AIAA J) .. 2107
Zinn, Ben T. A theoretical study of nonlinear combustion instability in liquid-propellant rocket engines (AIAA J) 1966
Zirinsky, S. An ultrasonic technique to monitor fatigue damage in aircraft structures (JA) 329
Zitzow, U. (AIAA J; see Wu, Y. C. L.)
Zlotnick, Martin. Nonequilibrium sublimation in a boundary layer at Lewis number = 1 (AIAA J, TN) 1419
Zukoski, E. E. (AIAA J; see Spaid, F. W.)
Zweben, Carl. Tensile failure of fiber composites (AIAA J) 2325
Zyszkowski, Wiktor. (AIAA J, TN; see Rafalski, Pawel)

SUBJECTS

CONVENTIONAL AIRCRAFT TECHNOLOGY

Air Transportation Systems

Airline equipment planning. D. J. Lloyd-Jones (JA) 60
Prospects in aeronautics research and development. Charles W. Harper (JA) 417
Controlled recovery of payloads at large glide distances, using the para-foil. C. F. Knapp and W. R. Barton (JA) 112

Air Navigation, Communication, and Traffic Control Systems

V/STOL airline system simulation. Joel F. Kahn (JA) 306
Communications constraint in the air traffic control system. Matthew Rosenshine (JA) 355

General Aviation Systems, including Ground Support

Aircraft and Air Transportation Economics

Airline equipment planning. D. J. Lloyd-Jones (JA) 60
V/STOL airline system simulation. Joel F. Kahn (JA) 306
Reliability and operational economics of the next decade of jet transports. H. W. Adams (JA) 570

Military Aircraft Missions

Considerations in the design of CONI aircraft. Harold C. Larsen (JA) 243

Aircraft Flight Operations

Developments associated with advanced commercial aircraft crew requirements. W. M. Magruder, J. A. Gorham, and R. F. Livingston (JA) 144
Criteria for determination of minimum usable approach speed. G. A. Patterson Jr. (JA) 268
Boeing/Sperry automatic landing system 727 airplane. J. E. Templeman and R. H. Parker (JA) 285
Automatic flight management of future high-performance aircraft. David M. Petrie (JA) 335
Takeoff performance of jet-propelled conventional and vectored-thrust STOL aircraft. A. R. Krenkel and A. Salzman (JA) 429
Reliability and operational economics of the next decade of jet transports. H. W. Adams (JA) 570
Data systems and data analysis methods to support onboard in-flight operations. D. M. Prongay (JA) 578

Airplane and Component Aerodynamics

A numerical solution for the minimum induced drag of nonplanar wings. J. L. Lundry and P. B. S. Lissaman (JA) 17
Extraction of aerodynamic derivatives from flight data, using an analog regression technique. Robert M. Marchetti (JA) 22
Controlled recovery of payloads at large glide distances, using the para-foil. C. F. Knapp and W. R. Barton (JA) 112
Some contributions on a control-surface buzz at high subsonic speeds. Yasuharu Nakamura (JA) 118
Nonlinear two-dimensional unsteady potential flow with lift. Joseph P. Giesing (JA) 135
Improved methods of spillage drag prediction for two-dimensional inlets. R. V. Osmon (JA) 254
Structure of trailing vortices. Barnes W. McCormick, James L. Tangler, and Harold E. Sherrieb (JA) 260
Takeoff performance of jet-propelled conventional and vectored-thrust STOL aircraft. A. R. Krenkel and A. Salzman (JA) 429
Analysis and design of wing-body combinations at subsonic and supersonic speeds. Frank A. Woodward (JA) 528
Calculation of profile drag of airfoils at low Mach numbers. Tuncer Cebeci and A. M. O. Smith (JA) 535
Elastic wind-tunnel models for predicting longitudinal stability derivatives of elastic airplanes. J. Roskam, T. Holgate, and G. Shimizu (JA) 543
A vortex method for the study of airplane-missile aerodynamic interference. H. T. Yang (JA) 591
Review of methods for predicting the aerodynamic characteristics of parawings. Michael R. Mendenhall, Selden B. Spangler, and Jack N. Nielsen (JA) 597
Flow phenomena and separation over delta wings with trailing-edge flaps at Mach 6. Allen H. Whitehead Jr. and J. Wayne Keyes (AIAA J) 2380
Contour plotting for the transonic flight-test drag polar. K. E. Ward (JA, EN) 191
A method of computing indicated airspeed in ground effect. Danny Jacob Willig (JA, EN) 412
Aerodynamic configurations yielding lift without sonic boom. Robert W. Porter (JA, EN) 606

Aerodynamic and Powerplant Noise (Including Sonic Boom)

Aircraft Deceleration Systems

Aircraft Gust Loading and Wind Shear

A procedure for evaluating the spacewise variations of continuous turbulence on airplane responses. J. R. Fuller (JA) 49
Gust velocity spatial distribution effects on lateral-directional response of VTOL aircraft. Robert L. Swaim and Alonzo J. Connors (JA) 53
Unsteady aerodynamics and dynamic response of flexible supersonic aircraft to continuous turbulence. Jack Morito Ii and Kenneth W. Sidwell (JA) 106
Design criterion of panel structure excited by turbulent boundary layer. Lucio Maestrello (JA) 321
Turbulence upset and other studies on jet transports. Jerome G. Theisen and John Haas (JA) 344
Atmospheric turbulence considerations for future aircraft designed to operate at low altitudes. J. D. Gault and D. E. Gunter Jr. (JA) ... 574

Aircraft Powerplant Design and Installation

Subsonic diffusers designed integrally with vortex generators. Alan C. Brown, H. Franz Nawrocki, and Peter N. Paley (JA) 221
Investigation of an actively cooled leading edge for hypersonic ramjet engines. Stephen E. Grenleski and Frederick S. Billig (JA) 359
Experimental investigation of flow distortion in fan-in-wing inlets. U. W. Schaub (JA) 473
Design and development of an air intake for a supersonic transport aircraft. I. H. Rettie and W. G. E. Lewis (JA) 513
A remark concerning engine-inlet distortion. Mark B. Sussman (JA, TC) 95

Aircraft Fuels and Fuel Systems

A fluidic fuel control system. Ben A. Otsap and George A. Yankura (JA) 373

Aircraft Propulsion System Noise

Turbofan-engine noise suppression. Robert E. Pendley and Alan H. Marsh (JA) 215

Aircraft Rocket Applications

Aircraft Configuration Design

Developments associated with advanced commercial aircraft crew requirements. W. M. Magruder, J. A. Gorham, and R. F. Livingston (JA) 144
From wind tunnel to flight, the role of the laboratory in aerospace design. Philippe Poisson-Quinton (JA) 193
Considerations in the design of COIN aircraft. Harold C. Larsen (JA) 243
Surfaces for computer-aided aircraft design. S. A. Coons and B. Herzog (JA) 402
Aircraft design augmented by a man-computer graphic system. Richard Q. Boyles (JA) 486
Analysis and design of wing-body combinations at subsonic and supersonic speeds. Frank A. Woodward (JA) 528
Aerodynamic configurations yielding lift without sonic boom. Robert W. Porter (JA, EN) 606

Aircraft Subsystem Design

New designs for commercial aircraft wheels and brakes. George E. Stanton (JA) 73

Boeing/Sperry automatic landing system 727 airplane. J. E. Templeman and R. H. Parker (JA) ... 285
Automatic flight management of future high-performance aircraft. David M. Petrie (JA) ... 335
Linkage Flowrate past pistons of oil hydraulic system component. P. Dransfield and D. M. Bruce (JA) ... 156

Aircraft Structural Design (Including Loads)

Concorde structural development. N. F. Harpur (JA) ... 176
Minimum-weight analysis of filamentary composite wide columns. Leslie M. Lackman and Robert M. Ault (JA) ... 184
Design criterion of panel structure excited by turbulent boundary layer. Lucio Maestrello (JA) ... 321
Estimation of taxi load exceedances using power spectral methods. John M. Firebaugh (JA, EN) ... 507
Linear optimal theory applied to active structural bending control. Ralph E. Smith and Evan L. S. Lum (JA) ... 479

Aircraft Structural Materials

Advanced-composite-material application to aircraft structures. Charles W. Rogers (JA) ... 311

Aircraft Vibration

Some contributions on a control-surface buzz at high subsonic speeds. Yasuharu Nakamura (JA) ... 118
An ultrasonic technique to monitor fatigue damage in aircraft structures. S. Zirinsky (JA) ... 329

Aircraft Fabrication

Aircraft Handling, Stability, and Control

Effects of manual altitude control and other factors on short-period handling quality requirements. Robert L. Stapleford and Irving L. Ashkenas (JA) ... 41
A procedure for evaluating the spacewise variations of continuous turbulence on airplane responses. J. R. Fuller (JA) ... 49
A theory of three-dimensional parachute dynamic stability. Frank M. White and Dean F. Wolf (JA) ... 86
Unsteady aerodynamics and dynamic response of flexible supersonic aircraft to continuous turbulence. Jack Morito Ii and Kenneth W. Sidwell (JA) ... 106
Lateral-directional flying qualities for power approach. George E. Miller and James A. Franklin (JA) ... 126
Design of elastic mode suppression systems for ride quality improvement. Lester D. Edinger (JA) ... 161
Automatic flight control system for automatic terrain-following. F. M. Krachmalnick, G. J. Vetsch, and M. J. Wendl (JA) ... 168
Navy variable-stability studies of longitudinal handling qualities. John A. Eney (JA) ... 271
In-flight measurement of human response characteristics. Fred D. Newell and Paul E. Pietrzak (JA) ... 277
A frequency domain approach to linear optimal control. R. F. Whitbeck (JA) ... 395
Linear optimal theory applied to active structural bending control. Ralph E. Smith and Evan L. S. Lum (JA) ... 479
Elastic wind-tunnel models for predicting longitudinal stability derivatives of elastic airplanes. J. Roskam, T. Holgate, and G. Shimizu (JA) ... 543

Aircraft Landing Dynamics

Criteria for determination of minimum usable approach speed. G. A. Patterson Jr. (JA) ... 268

Aircraft Testing

From wind tunnel to flight, the role of the laboratory in aerospace design. Philippe Poisson-Quinton (JA) ... 193

Aircraft and Component Wind Tunnel Testing

From wind tunnel to flight, the role of the laboratory in aerospace design. Philippe Poisson-Quinton (JA) ... 193
Elastic wind-tunnel models for predicting longitudinal stability derivatives of elastic airplanes. J. Roskam, T. Holgate, and G. Shimizu (JA) ... 543
A laser-Doppler technique for the measurement of particle velocity. Robert N. James, Wayne R. Babcock, and Howard S. Seifert (AIAA J, TN) ... 160
Serrated walls for low Mach number supersonic wind tunnels. John C. Evvard (AIAA J, TN) ... 985
Density determination from axisymmetric interferograms. James W. Bradley (AIAA J, TN) ... 1190

Aircraft Crew Training

In-flight simulation for training? W. O. Breuhaus and G. Bull (JA) ... 150

Aircraft Cabin Environment and Life Support Systems

DC-9 environmental control design and first year's service experiences. H. H. Hauger, V. F. Cleeves, and J. S. Perlee (JA) ... 64
Oxygen safety-submarine to aircraft. Raymond E. Geller (JA) ... 584
Personnel thermoprotective systems—II. Kenneth N. Tinklepaugh (JA, EN) ... 317

VTOL TECHNOLOGY

VTOL Missions and Transportation Systems

Computerized schedule construction for a VTOL airbus transportation system. R. W. Simpson (JA) ... 299
V/STOL airline system simulation. Joel F. Kahn (JA) ... 306

VTOL Flight Operations

A realistic assessment of the vertiport/community noise problem. Nathan Shapiro and Gerald J. Healy (JA) ... 407

VTOL Ground Support Systems

Rotary Wing Aerodynamics

Induced flow variation of the helicopter rotor operating in the vortex ring state. Akira Azuma and Akira Obata (JA) ... 381

VTOL Landing Dynamics

Ground (or Water-Surface) Effect Machines

VTOL Aircraft Design

Comparative analysis of effects of hover control concept on V/STOL aircraft size. E. Kazan and J. Krause Jr. (JA) ... 387
Comparative projections of low-disk-loading VTOL aircraft for civil application. E. L. Brown and J. N. Fischer (JA) ... 436
Reliability with STOL. Spero A. Kondoleon (JA) ... 443
Powerplant aspects of high-speed, inter-city VTOL aircraft. D. J. Pickerell and R. A. Cresswell (JA) ... 467

VTOL Structural Design (Including Loads)

VTOL Vibration

VTOL Handling, Stability, and Control

Gust velocity spatial distribution effects on lateral-directional response of VTOL aircraft. Robert L. Swaim and Alonzo J. Connors (JA) ... 53
Investigation of tilt-rotor VTOL aircraft rotor-pylon stability. H. Kipling Edenborough (JA) ... 97
Comparative analysis of effects of hover control concept on V/STOL aircraft size. E. Kazan and J. Krause Jr. (JA) ... 387
VS/TOL all-weather guidance. Alexander B. Winick (JA, EN) ... 510

VTOL Testing

VTOL Cabin Habitability and Design

LAUNCH VEHICLE AND MISSILE TECHNOLOGY

Launch Vehicle Systems, including Ground Support

Launch probability models for a single space vehicle. Robert G. Chamberlain (JSR, EN) ... 860

Missile Systems

Sounding Rocket Systems

Development and operation of the stabilized skylark rocket. J. F. Hazell, P. E. G. Cope, and I. F. M. Walker (JSR) ... 425
Operational range safety for solid-propellant sounding rockets. Loyd C. Parker (JSR) ... 705

Launch Vehicle and Missile Trajectories

Iteration procedure for indirect trajectory optimization methods. J. M. Lewallen, B. D. Tapley, and S. D. Williams (JSR) ... 321

Approximate solution of linearized ballistic equation of motion with error analysis. J. F. McGarvey (JSR) 911
Analytic Monte Carlo error analysis. M. H. Merel and F. J. Mullin (JSR) 1304
A simplified explicit guidance scheme for orbital injection. Harold N. Scofield (JSR) 1309
Optimal payload trajectory characteristics for horizontally launched booster vehicle. Jarrell R. Elliott and Timothy R. Rau (JSR, EN) 218
Effect of launch angle on sounding rocket trajectories. C. P. Hoult (JSR, EN) 471
Relative motion in the vicinity of a ballistic missile. L. Rider (JSR, EN) 1115
Optimum intercept laws for accelerating targets. Vitalij Garber (AIAA J, TN) 2196

Launch Vehicle and Missile Mission Studies and Economics

Lunar applications of a spent S-IVB/IU stage (LASS). L. O. Schulte and D. E. Davin (JSR) 510
Study results pertaining to selection and evaluation of a multipurpose satellite. George E. Fosdick and Robert C. Cary (JSR) 821
A building-block approach to Saturn V uprating using solid-propellant motors. J. W. Monroe and C. J. Corso (JSR) 827
Pulse sustaining of low-altitude cruise missiles. M. H. Ullock (JSR, EN) 1220
An efficiency criterion for super-orbital rocket propulsion systems. R. Sandri (JSR, EN) 216
Optimal payload trajectory characteristics for horizontally launched booster vehicle. Jarrell R. Elliott and Timothy R. Rau (JSR, EN) 218
Is booster recovery and re-use practical? John S. Knaur (JSR, EN) .. 488
Launch probability models for a single space vehicle. Robert G. Chamberlain (JSR, EN) 860

Rocket Vehicle Aerodynamics

Wind-tunnel measurement at M = 4.28 of some static and dynamic aerodynamic characteristics of finned missiles suspended magnetically. Alan B. Copeland, Eugene E. Covert, and Robert A. Petersen (JSR) 838
An empirical expression for drag coefficients of cones at supersonic speeds. John Carroll Hill (AIAA J, TN) 165

Rocket Vehicle Aerodynamic Heating

Environmental limitations of radomes. L. B. Weckesser, R. P. Suess, and R. H. Hallendorff (JSR) 762

Rocket Vehicle Gust Loading and Wind Shear

Some properties of low-altitude winds at Cape Kennedy, Florida. James R. Scoggins (JSR, EN) 1222

Fuel and Propellant Storage, Transfer and Control Systems

Dynamics of bellows filled with an incompressible liquid. Archie D. Lytle (JSR) 9
Parametric oscillations of a longitudinally excited cylindrical shell containing liquid. Daniel D. Kana and Roy R. Craig Jr. (JSR) 13
Pressure collapse in oxygen storage under zero-g. D. V. Kamat and W. H. Abraham (JSR) 184
Testing of polymeric materials for use in multiple-ply expulsion bladders for cryogenic liquids. D. H. Pope and J. E. Penner (JSR) 259
Pneumatic logic rocket engine sequence control. S. E. Milleman (JSR) 439
Metallic bladders for cryogenic fluid storage and explosion systems. David Gleich and Fred L'Hommedieu (JSR) 1057
A large-scale liquid fluorine flow facility development program. J. W. Orr and W. E. Crane (JSR) 1129
Fracture process in fluorocarbon laminate composites. Manuel E. Prado (JSR) 1393
Liquid propellant stratification with sidewall and bottom heating. Stanley E. Hurd and Edward Y. Harper (JSR, EN) 220
Empirical correlations for pressure rise in closed cryogenic containers. M. H. Blatt (JSR, EN) 733
Investigations of geysering in vertical tubes. Johnny E. Burkhalter, Richard H. Sforzini, and Charles R. Tinsley (JSR, EN) 854
A zero-g slosh problem. Leslie R. Koval (JSR, EN) 865
Saturn IB first-stage propellant loading principles, accuracies, and future improvements. W. S. Parker, and R. L. Barrows (JSR, EN 1355
Volatile-liquid pressurization. Charles N. Tripp (JSR, EN) 1477
Advanced pressurization system for liquid rockets. R. A. Byron and C. P. Morse (JSR, EN) 1488

Launch Vehicle or Missile Propulsion System Integration

Integration of a rocket motor into the scout vehicle. Veryl Dean Crowder (JSR, EN) 1482

Launch Vehicle and Missile Configurational Design

Concepts for more efficient bulkhead designs for launch and space vehicles. Allen I. Bernstein and Josef F. Blumrich (JSR) 1404

Launch Vehicle and Missile Structural Design (Including Loads)

Analyses of the longitudinal dynamics of launch vehicles with application to 1/10-scale Saturn V Model. Larry D. Pinson, H. Wayne Leonard, and John P. Raney (JSR) 303
A mathematical model for flexible response of uprated Saturn I to in-flight winds. C. R. Wells and H. P. Mitchell (JSR) 313
A building-block approach to Saturn V uprating using solid-propellant motors. J. W. Monroe and C. J. Corso (JSR) 827
Concepts for more efficient bulkhead designs for launch and space vehicles. Allen I. Bernstein and Josef F. Blumrich (JSR) 1404

Launch Vehicle and Missile Fabrication

Launch Vehicle and Missile Subsystem Design

Analysis of the pressure response of a cavity vented to a missile launcher. Richard H. Miller and Charles R. Russell (JSR, EN) ... 492

Uncontrolled Rocket and Missile Dynamics

Design of rocket nozzles to reduce gas misalignment. H. M. Darwell and G. F. P. Trubridge (JSR) 36
Aerodynamic problems of sounding-rocket vehicles. René Ceresuela (JSR) 96
Dynamic stability analysis of bodies of revolution in supersonic flow. M. F. Platzer and A. D. Sherer (JSR) 833
Wind-tunnel measurement at M = 4.28 of some static and dynamic aerodynamic characteristics of finned missiles suspended magnetically. Alan B. Copeland, Eugene E. Covert, and Robert A. Petersen (JSR) 838
Approximate solution of linearized ballistic equation of motion with error analysis. J. F. McGarvey (JSR) 911
Effect of supersonic interference on lateral stability of low-aspect-ratio missiles in combined pitch and yaw. Humes H. Hart (JSR) 1457
A re-evaluation of jet damping. Gordon G. Warner and Virgil W. Snyder (JSR, EN) 364
Comments on "A re-evaluation of jet damping." Paul Katz (JSR, TC) 1246
Comments on "A re-evaluation of jet damping" Tadeusz Papis (JSR, TC) 1246
Reply by authors to P. Katz and to T. Papis. G. G. Warner and V. W. Snyder (JSR, TC) 1247
Attitude of a spinning rocket under thrust with statistically varied error sources. Tadeusz Papis and Clark W. Bullard (JSR, EN) 607
Dispersions resulting from atmospheric variations. Everett W. Purcell and Thomas B. Barbery (JSR, EN) 1005
Behavior of the incidence of an accelerated missile with locked controls. Sergio De Zuccoli (JSR, EN) 1347

Launch Vehicle and Controlled Missile Dynamics and Control

Design of rocket nozzles to reduce gas misalignment. H. M. Darwell and G. F. P. Trubridge (JSR) 36
Primer vector on fixed-time impulse trajectories. P. M. Lion and M. Handelsman (AIAA J) 127
Missile autopilot adaption using control-surface hinge-moment feedback. Cornelius T. Leondes and John L. Pearson (JSR) 154
Analyses of the longitudinal dynamics of launch vehicles with application to a 1/10-scale Saturn V model. Larry D. Pinson, H. Wayne Leonard, and John P. Raney (JSR) 303
A mathematical model for flexible response of uprated Saturn I to in-flight winds. C. R. Wells and H. P. Mitchell (JSR) 313
Development and operation of the stabilized skylark rocket. J. F. Hazell, P. E. G. Cope, and I. F. M. Walker (JSR) 425
Nonlinear motion of a symmetric missile acted on by a double valued static moment. Charles H. Murphy (AIAA J) 713
Development of the Apollo launch escape system. J. G. McCarthy Jr., J. Ian Dodds, and R. S. Crowder (JSR) 927
Natural frequency of longitudinal modes of liquid propellant space launch vehicles. C. Desmond Pengelley (JSR) 1425
Effect of supersonic interference on lateral stability of low-aspect-ratio missiles in combined pitch and yaw. Humes H. Hart (JSR) 1457
Lambda matrix terminal control for missile guidance. E. P. Cunningham (JSR, EN) 119
Rapid determination of near-optimum linear pitch programs for rocket boosters. Richard Rosenbaum (JSR, EN) 351
Launch vehicle mode interaction. Robert L. Swain (AIAA J, TN) ... 753
Dynamic stability of symmetric spinning missiles. T. J. Coakley (JSR, EN) 1231
Behavior of the incidence of an accelerated missle with locked controls. Sergio De Zuccoli (JSR, EN) 1347
Stability criterion for ascending ballistic missiles. Charles H. Murphy (JSR, TC) 495
Reply by author to C. H. Murphy. L. H. Ohman (JSR, TC) 496

Launch Vehicle and Missile Guidance Systems (Including Command and Information Systems)

Statistical estimation in inertial navigation systems. Larry D. Brock and George T. Schmidt (JSR) ... 146
Missile autopilot adaption using control-surface hinge-moment feedback. Cornelius T. Leondes and John L. Pearson (JSR) ... 154
Optimal terminal guidance of an air-to-surface missile. R. W. Rishel (JSR) ... 649
Environmental limitations of radomes. L. B. Weckesser, R. P. Suess, and R. H. Hallendorff (JSR) ... 762
The Kalman filter in transfer alignment of inertial guidance systems. Arthur A. Sutherland Jr. (JSR) ... 1175
A manual optimal guidance scheme using a predictive model. James D. Gilchrist and Duane E. Soland (JSR) ... 1181
Strapdown star tracker for space vehicle attitude control. Morris M. Birnbaum and Phil M. Salomon (JSR) ... 1188
A simplified explicit guidance scheme for orbital injection. Harold N. Scofield (JSR) ... 1309
Lambda matrix terminal control for missile guidance. E. P. Cunningham (JSR, EN) ... 119
Rapid determination of near-optimum linear pitch programs for rocket boosters. Richard Rosenbaum (JSR, EN) ... 351
A statistical analysis of yaw steering for space missions. Jerome M. Baker (JSR, EN) ... 601
Linear attitude programs applied to the guidance of European space vehicles, and comparison with the optimal control law. A. Benoît (JSR, EN) ... 613
Pulse sustaining of low-altitude cruise missile. M. H. Ullock (JSR, EN) ... 1220

Tracking Systems

Launch Vehicle or Missile System and Component Ground Testing

Aerodynamic problems of sounding-rocket vehicles. René Ceresuela (JSR) ... 96
Development of the Apollo launch escape system. J. F. McCarthy Jr., J. Ian Dodds, and R. S. Crowder (JSR) ... 927
High-speed monorail rocket sleds for aerodynamic testing at high Reynolds numbers. D. J. Rigali and L. V. Feltz (JSR) ... 1341
A high Reynolds number wind tunnel and its operating Concept. John W. Davis (JSR, EN) ... 1225

Launch Vehicle or Missle Simulation

Natural frequency of longitudinal modes of liquid propellant space launch vehicles. C. Desmond Pengelley (JSR) ... 1425

Launch Vehicle or Missile Flight Testing

Boundary-layer transition from minuteman flight tests. Richard H. Miller (JSR, EN) ... 995

SPACECRAFT TECHNOLOGY

Unmanned Lunar and Interplanetary Systems

Orbit determination for lunar orbiter. Alton P. Mayo (JSR) ... 395
Multipurpose entry vehicle requirements for unmanned landings on bodies having tenuous atmospheres. E. Brian Pritchard and Edwin F. Harrison (JSR) ... 413
Photographic exploration of Mars with solar-electric propulsion. L. H. Wood, W. P. Prasthofer, and R. I. Vachon (JSR) ... 503
Lunar applications of a spent S-IVB/IU stage (LASS). L. O. Schulte and D. E. Davin (JSR) ... 510
A method for studying planetary atmospheres employing the dual flyby mode. J. Michael Coogan (JSR) ... 625
A 3-kw solar-electric spacecraft for multiple interplanetary missions. H. F. Meissinger, R. A. Park, and H. M. Hunter (JSR) ... 678
Applications of combined electric, high-thrust propulsion systems. Alfred C. Mascy, Duane W. Dugan, and Samuel W. Pitts (JSR) ... 785
Trajectory optimization for solar-electric powered vehicles. William D. Dickerson and David B. Smith (JSR) ... 889
Computer-managed laboratory for space applications. A. L. Medin, D. J. Cavanaugh, and S. B. Cades (JSR) ... 1205
Solar-electric-propulsion systems for unmanned space missions. J. H. Molitor and R. N. Olson (JSR) ... 1312
Jovian occultation experiment. Benard A. Sodek Jr. (JSR, EN) ... 461

Unmanned Earth Satellite Systems

Princeton experiment package for OAO-C. Norman A. Gundersen (JSR) ... 383
Maneuverable geodetic satellites in resonant orbits. Robert H. Greene (JSR) ... 497
Study results pertaining to selection and evaluation of a multipurpose satellite. George E. Fosdick and Robert C. Cary (JSR) ... 821
Optimal control application for electrothermal multijet systems on synchronous earth spacecraft. William C. Isley (JSR) ... 1444
On the role of the satellite for meterology. P. E. Wasko, E. V. Petersen, and V. Sirouian (JSR, EN) ... 225
Suboptimal flight plans for injection of synchronous satellites. Alan M. Scheneider (JSR, EN) ... 236
Basic concepts of orbiting reflectors. Arthur G. Buckingham and Harold M. Watson (JSR, EN) ... 851
Maritime satellite service. Mario W. Cardullo (JSR, EN) ... 1479

Manned Lunar and Interplanetary Systems

Historical perspectives on Apollo. Eugene M. Emme (JSR, SA) ... 369
Development of a manual thrust-vector-control mode for Apollo. O. H. Lindquist (JSR) ... 297
Lunar applications of a spent S-IVB/IU stage (LASS). L. O. Schulte and D. E. Davin (JSR) ... 510
Earth-orbit masses for five-impulse Mars stopover missions in 1980. John R. Doll (JSR) ... 517
Plasma radiation shield: Concept and applications to space vehicles. Richard H. Levy and Francis W. French (JSR) ... 570
Space-flight mission design for flight and crew safety. Carl R. Huss, Claiborne R. Hicks Jr., and Charlie C. Allen (JSR) ... 711
Aerobraking as a potential planetary capture mode. E. M. Repic, M. G. Boobar, and F. G. Chapel (JSR) ... 921
Development of the Apollo launch escape system. J. F. McCarthy Jr., J. Ian Dodds, and R. S. Crowder (JSR) ... 927
A modified Monte Carlo procedure. Thomas S. Logsdon and Robert C. Africano (AIAA J) ... 1111
Safety in recovery of Apollo spacecraft. J. B. Hammack and J. C. Stonesifer (JSR, EN) ... 484
Tracking and communications for planetary manned mission. F. O. Vonbun and J. T. Mengel (JSR, EN) ... 863

Manned Space Station Systems

Design and vehicle integration of a Pu-238 Brayton power system for MORL. Vern D. Kirkland and George G. McKhann (JSR) ... 241
Space-flight mission design for flight and crew safety. Carl R. Huss, Claiborne R. Hicks Jr., and Charlie C. Allen (JSR) ... 711
Attitude control and precision pointing of Apollo telescope mount. W. B. Chubb, D. N. Schultz, and S. M. Seltzer (JSR) ... 896
Subsystems analyses for a MORL resistojet control system. A. Pisciotta Jr. and E. Eusanio (JSR) ... 948
Development of the Gemini operational rendezvous plan. Richard P. Parten and John P. Mayer (JSR) ... 1023
Drift angle acuity in determination of attitude of orbital spacecraft. F. E. Neumeyer (JSR, EN) ... 213
Docking mechanism applicable to logistics spacecraft systems. T. J. Nishizaka (JSR, EN) ... 1112

Entry Vehicles and Landers

A manually retargeted automatic landing system for the lunar module (LM). Allan R. Klumpp (JSR) ... 129
Lunar applications of a spent S-IVB/IU stage (LASS). L. O. Schulte and D. E. Davin (JSR) ... 510
Terminal guidance for soft and accurate lunar landing for unmanned spacecraft. T. Y. Feng and C. A. Wasynczuk (JSR) ... 644
Surveyor spacecraft landing accuracy. J. J. Ribarich (JSR) ... 768
Performance of a Mars soft lander with staged propulsion. James H. Kelley and Lawrence J. Ginsberg (JSR) ... 774
Aerobraking as a potential planetary capture mode. E. M. Repic, M. G. Boobar, and F. G. Chapel (JSR) ... 921
Manned Earth entry at hyperbolic velocities. J. F. McCarthy Jr. and G. M. Hanley (JSR) ... 1009
A performance study of the Lunar Module's landing radar system. J. Eichler (JSR) ... 1016
A materials-design synthesis for optimum design of spacecraft energy-dissipating systems. A. C. Knoell (JSR) ... 1170
Effects of environmental and ablator performance uncertainties on heat-shielding requirements for hyperbolic entry vehicles. W. D. Coleman, L. F. Hearne, J. M. Lefferdo, L. W. Gallagher and N. S. Vojvodich (JSR) ... 1260
Thermal protection systems for a Mars-entry vehicle. A. A. Hiltz, D. E. Florence, and D. L. Lowe (JSR) ... 1278
Phase plane methods for toppling stability analysis of landing spacecraft. Dale R. Williamson and Peter W. Likins (JSR) ... 1452
Correlation of turbulent heat flax to deceleration flaps in supersonic flow. Donald E. Nestler (JSR, EN) ... 998
Steering control of skid-equipped horizontally landing spacecraft. Denis J. Feld (JSR, EN) ... 1103
Erratum: Viscous effects on hypersonic L/D of three classes of manned spacecraft. James N. Mueller and Roger M. Winebarger (JSR, TC) ... 368

Extraterrestrial Surface Transportation

Flight test evaluation of a small one-man lunar flying device. Maxwell W. Goode and Lee H. Person Jr. (JSR) ... 1468
Application of the MIRA 150A variable-thrust engine to manned lunar flying systems. R. J. Johnson, B. R. Boyd, and T. H. Smith (JSR, EN) ... 849
Simulation of manned lunar surface operations. Josepeh L. Sminara (JSR, EN) ... 979

Lunar and Planetary Trajectories

Iteration procedures for indirect trajectory optimization methods. J. M. Lewallen, B. D. Tapley and S. D. Williams (JSR) 321
A rendezvous with Halley's Comet in 1985–1986. H. F. Michielsen (JSR) 328
Data return advantages of Earth-Mars-Earth trajectories. Peter H. Feitis (JSR) 390
Orbit determination for lunar orbiter. Alton P. Mayo (JSR) 395
Earth-orbit masses for five-impulse Mars stopover missions in 1980. John R. Doll (JSR) 517
Grand tours of the Jovian planets. Brent W. Silver (JSR) 633
Propulsive-lift landing of manned entry vehicles. William J. Nelson and Ken S. Coward (JSR) 781
Applications of combined electric, high-thrust propulsion systems. Alfred C. Mascy, Duane W. Dugan, and Samuel W. Pitts (JSR) 785
Trajectory optimization for solar-electric powered vehicles. William D. Dickerson and David B. Smith (JSR) 889
Solar electric low-thrust missions to Jupiter with swingby continuation to the outer planets. G. A. Flandro (JSR) 1029
Comparison of two optimizations of a nonlinear boundary-value problem. James N. Hanson (AIAA J) 1979
Nonplanar moon-to-earth trajectories. J. E. Lancaster and J. Kevorkian (AIAA J) 1986
Analysis of the optimum two-impulse orbital transfer under arbitrary terminal conditions. Fan Toh Sun (AIAA J) 2145
Optimal space flight with multiple propulsion systems. George A. Hazelrigg Jr. (JSR, EN) 1233
Time optimal control for interplanetary flight by dynamic programming. James N. Hanson (AIAA J, TN) 2202

Earth-Orbital Trajectories

Solar radiation pressure perturbations of Earth satellite orbits. E. Levin (AIAA J) 120
Multiple site return probability of spacecraft from circular and elliptical orbits. S. T. Chu and K. S. Davis (JSR) 419
Maneuverable geodetic satellites in resonant orbits. Robert H. Greene (JSR) 497
Orbit adjustment of sun-synchronous satellites with electric propulsion. Curtiss C. Barrett (JSR) 792
Development of the Gemini operational rendezvous plan. Richard P. Parten and John P. Mayer (JSR) 1023
Three-dimensional nonlinear stability analysis of the sun-perturbed earth-moon equilateral points. Hans B. Schechter (AIAA J) 1223
Modified long-period behavior due to tesseral harmonics. J. Vagners (AIAA J) 1229
Poincaré's continuation by computers. André Deprit and Arnold Rom (AIAA J) 1234
Stable periodic orbits about the sun perturbed earth-moon triangular points. Ronald Kolenkiewicz and Lloyd Carpenter (AIAA J) 1301
Improvement of mean orbital elements for Vinti's spheroidal satellite theory. Harvey Walden (AIAA J) 1305
Optimal control application for electrothermal multijet systems on synchronous earth spacecraft. William C. Isley (JSR) 1444
Effect of oblateness and drag on equatorial orbits with small eccentricities. T. Myint-U (JSR, EN) 123
Suboptimal flight plans for injection of synchronous satellites. Alan M. Schneider (JSR, EN) 236
Equilibrium longitudes of geostationary satellites. Leon Blitzer, Donald R. Davis, and Trella H. deSulima (AIAA J, TN) 1199
Optimal thrust direction for maximization of orbital lifetime. Hans Karrenberg (JSR, EN) 1370
An efficient algorithm for minimum impulse orbital transfer. Edward A. Kern and James H. Burghart (AIAA J, TN) 1370
Recursion formulas for the coefficients of the f and g series. E. R. Lancaster and R. H. Estes (AIAA J, TN) 1372
Low tangential thrust trajectories-improved first-order solution. Chong-Hung Zee (AIAA J, TN) 1378
Persistent solar influenced libration point motion. B. D. Tapley and B. E. Schutz (AIAA J, TN) 1405
Determination of an orbit from only three angular measurements. J. Durieu and Y. Genin (AIAA J, TN) 1432

Spacecraft Mission Studies and Economics

A rendezvous with Halley's Comet in 1985–1986. H. F. Michielsen (JSR) 328
Analysis and comparison of spacecraft resources forecasting techniques for unmanned missions. S. L. Rosing and W. J. Bursnall (JSR) 522
Study results pertaining to selection and evaluation of a multipurpose satellite. George E. Fosdick and Robert C. Cary (JSR) 821
Solar electric low-thrust missions to Jupiter with swingby continuation to the outer plantes. G. A. Flandro (JSR) 1029
Basic concepts of orbiting reflectors. Arthur G. Buckingham and Harold M. Watson (JSR, EN) 851

Entry Vehicle Mission Studies and Flight Mechanics

Recent studies of factors affecting high lift-drag ratios at Mach 19 in helium. W. C. Woods, P. J. Johnston, J. K. Molloy, and A. Henderson Jr. (JSR) 90
Multipurpose entry vehicle requirements for unmanned landings on bodies having tenuous atmospheres. E. Brian Pritchard and Edwin F. Harrison (JSR) 413
Multiple site return probability of spacecraft from circular and elliptical orbits. S. T. Chu and K. S. Davis (JSR) 419
Re-entry of radioactive power sources. M. J. Brunner, C. V. Dohner, and R. L. Lawit (JSR) 448
A 3-kw solar-electric spacecraft for multiple interplanetary missions. H. F. Meissinger, R. A. Park, and H. M. Hunter (JSR) 678
Space-flight mission design for flight and crew safety. Carl R. Huss, Claiborne R. Hicks Jr., and Charlie C. Allen (JSR) 711
Aerodynamic requirements for flare and landing of low-L/D glide vehicles. C. R. Faulders, E. R. Lekawa, and R. L. McNary (JSR) ... 915
Manned Earth entry at hyperbolic velocities. J. F. McCarthy Jr. and G. M. Hanley (JSR) 1009
Hypersonic lifting body optimization. W. L. Hankey and G. A. Elliott (JSR) 1463
A method for predicting aerodynamic characteristics of slender lifting re-entry vehicles at low speeds. S. C. Ghorai (JSR, EN) 619
Two-position roll modulation of lift for aerodynamic braking of a Mars entry vehicle. R. A. Niemann (JSR, EN) 725
Entry maneuvers for large lateral and small longitudinal range. Paul F. Holloway (JSR, EN) 745
Atmospheric entry employing range sensitivity. James W. Watson and Allen R. Stubberud (JSR, EN) 983
Abaltive surface recession and mass loss on large-angle sphere-cones. K. J. Orlik-Rükemann (JSR, EN) 996
Optimal lift control of a hypersonic glider. L. Pottsepp and Y. Y. Shi (AIAA J, TN) 1169
Direct entry longitudinal range dispersion of unmanned Mars landers. E. Brian Pritchard and Edwin F. Harrison (JSR, EN) 1497

Post-entry Deceleration Systems and Flight Mechanics

Performance of a Mars soft lander with staged propulsion. James H. Kelley and Lawrence J. Ginsberg (JSR) 774
Propulsive-lift landing of manned entry vehicles. William J. Nelson and Ken S. Coward (JSR) 781
Aerodynamic requirements for flare and landing of low-L/D glide vehicles. C. R. Faulders, E. R. Lekawa, and R. L. McNary (JSR) ... 915
Aerobraking as a potential planetary capture mode. E. M. Repic, M. G. Boobar, and F. G. Chapel (JSR) 921
A performance study of the Lunar Module's landing radar system. J. Eichler (JSR) 1016
Forebody effects on drogue drag in supersonic flow. B. Dayman Jr. and D. W. Kurtz (JSR) 1335
Determination of the times of mutual visibility between two earth satellites. Robert J. Stern (JSR, EN) 345
Proof tests of the terminal parachute-recovery system for the biosatellite. John M. Cassanto, John P. Smrz, and Donald A. Eichel (JSR, EN) 348
Large-scale decelerator flight tests simulating a Mars environment. Reginald R. Lundstrom, Wayne L. Darnell, and Allen B. Henning (JSR, EN) 1106
Comments on "Approximate theory for terminal velocity of a freely falling body." Robert F. Stengel (JSR, TC) 367
Comment on "Approximate theory for terminal velocity of a freely falling body." William Squire (JSR, TC) 368
Reply by author to R. F. Stengel and W. Squire. George D. Stilley (JSR, TC) 368

Spacecraft Propulsion Systems Integration

A review of the alkali metal Rankine technology program. S. V. Manson (JSR, SA) 1249
Lunar orbiter velocity control system. H. H. Nye and D. W. Moorman (JSR) 139
Dual-mode, 100: 1 thrust modulation rocket engine. Lee Carey (JSR) 168
System concepts for a liquid mercury cathode thruster. H. J. King, J. H. Molitor, and S. Kami (JSR) 933
Solar-electric-propulsion systems for unmanned space missions. J. H. Molitor and R. N. Olson (JSR) 1312
Vehicle mass-exhaust velocity variations in free space, Louis G. Vargo (AIAA J, TN) 1373

Spacecraft Electric Power Systems

Design and vehicle integration of a Pu-238 Brayton power system for MORL. Vern D. Kirkland and George G. McKhann (JSR) 241
Re-entry of radioactive power sources. M. J. Brunner, C. V. Dohner, and R. L. Lawit (JSR) 448
Proton and ultraviolet radiation effects on solar mirror reflective surfaces. Roger B. Gillette (JSR) 454
Design study of a. c. motors to operate in helium from liquid to gaseous state. J. H. Redmond and F. W. Bott (JSR) 1065
Sealed cells and auxiliary electrodes. Harvey N. Seiger and Stephen Lerner (JSR, EN) 110
Performance of CdS solar cells after simulated micrometeroid exposure. Robert L. Bowman and Michael J. Mirtich (AIAA J, TN) ... 378
Optimization of a central-fin space radiator. Horst Keil (JSR, EN) .. 463
Shielding of solar cells against Van Allen belt protons. Carmine A. Carosella (JSR, EN) 878
Generation of high microwave power using arrays of varactor diodes. D. Parker and A. I. Grayzel (JSR, EN) 1368
Comment on "Effect of simulated micrometeoroid exposure on performance of N/P silicon solar cells." R. A. Breuch (AIAA J, TC) 380
Reply by authors to R. A. Breuch. Michael J. Mirtich and Robert L. Bowman (AIAA J, TC) 381

Spacecraft Temperature Control Systems

Analytical solution for transient flow of energy in a one-dimensional radiating fin. Lynn D. Russell and Alan J. Chapman (AIAA J) .. 90

Experimental heat-transfer correlation of a complex spacecraft model. J. B. Werner and P. S. Starrett (JSR) ... 247
Optical solar reflector: A highly stable, low α_s/ϵ spacecraft thermal control surface. K. N. Marshall and R. A. Breuch (JSR) ... 1051
Insulation evaluation tests for voyager mission. C. S. Lankton, S. J. Babjak, J. R. Crosby, and D. Ting (JSR) ... 1285
Simulated micrometeroid degradation of thermal control coatings. Herman Mark, R. D. Sommers, and M. J. Mirtich (JSR, EN) ... 117
Effects of roughness on rear-surface mirror satellite coatings. Keith E. Starner and Robert L. Stark (JSR, EN) ... 125
Structural optimization of a space radiator. Robert D. Cockfield (JSR, EN) ... 1240
Simplified thermal networks for the Lunar Module. John J. Chapter (JSR, EN) ... 1243

Spacecraft Configurational and Structural Design (Including Loads)

Impingement of underexpanded plumes on adjacent surfaces. A. R. Maddox (JSR) ... 718
Concepts for more efficient bulkhead designs for launch and space vehicles. Allen I. Bernstein and Josef F. Blumrich (JSR) ... 1404
Natural geometry of orbiting structures. G. M. Schindler (AIAA J, TN) ... 566
Docking mechanisms applicable to logistics spacecraft systems. T. J. Nishizaka (JSR, EN) ... 1112
Determination of solar radiation forces on satellite materials. F. Shakhrokhi and H. T. Clark (AIAA J, TN) ... 1569

Meteoroid Protection Systems

Development of self-sealant techniques for micrometeroid puncture of aerospace vehicles. S. Schwartz, A. J. Tuckerman, and W. F. Anspach (JSR) ... 253
Effectiveness of meteroid bumpers composed of two layers of distinct materials. T. D. Riney and E. J. Halda (AIAA J) ... 338
Performance of CdS solar cells after simulated micrometeoroid exposure. Robert L. Bowman and Michael J. Mirtich (AIAA J, TN) ... 378
Analysis of relative velocity vectors in the asteroid belt. Jerry M. Deerwester (JSR, EN) ... 859
Effectiveness of multisheet structures for meteoroid impact protection. Robert E. Sennett (AIAA J, TN) ... 942
Comment on "Effect of simulated micrometeoroid exposure on performance of N/P silicon solar cells." R. A. Breuch (AIAAJ, TC) ... 380
Reply by authors to R. A. Breuch. Michael J. Mirtich and Robert L. Bowman (AIAA J, TC) ... 381

Radiation Protection Systems

Plasma radiation shield: Concept and applications to space vehicles. Richard H. Levy and Francis W. French (JSR) ... 570
Necessary conditions for optimal lunar trajectories with discontinuous state variables and intermediate point constraints. W. E. Miner and J. F. Andrus (AIAA J) ... 2154
An efficient method for calculating optimal free-space N-impulse trajectories. D. J. Jezewski and H. L. Rozendaal (AIAA J) ... 2160

Spacecraft Attitude Dynamics and Control

Advanced spacecraft stabilization and control techniques. A. E. Sabroff (JSR, SA) ... 1377
A two-degree-of-freedom control moment gyro for high-accuracy attitude control. Donald J. Liska (JSR) ... 74
A manually retargeted automatic landing system for the lunar module (LM). Allan R. Klumpp (JSR) ... 129
Effect of dissipative aerodynamic torque on satellite rotation. Kent R. Johnson (JSR) ... 408
Radially vibrating, rotating gravitational gradient sensor. V. Chobotov (JSR) ... 434
Maneuverable geodetic satellites in resonant orbits. Robert H. Greene (JSR) ... 497
Planar librational stability of a flexible satellite. V. J. Modi and R. C. Brereton (AIAA J) ... 511
An onboard, closed-loop, mutation control system for a spin-stabilized spacecraft. Lynn H. Grasshoff (JSR) ... 530
Dynamics of deployment of extendible booms from spinning space vehicles. Gerald J. Cloutier (JSR) ... 547
Natural frequencies of a flexible gravity-gradient satellite. James K. Newton and James L. Farrell (JSR) ... 560
An acceleration vector attitude control system. Sherman M. Seltzer (JSR) ... 666
Optimal attitude control of a dual-spin satellite. Giacomo Porcelli (JSR) ... 881
Attitude control and precision pointing of Apollo telescope mount. W. B. Chubb, D. N. Schultz, and S. M. Seltzer (JSR) ... 896
Orbital gyrocompassing heading reference. J. L. Bowers, J. J. Rodden, E. D. Scott, and D. B. DeBra (JSR) ... 903
Subsystems analyses for a MORL resistojet control system. A. Pisciotta Jr. and E. Eusanio (JSR) ... 948
Effects of aerodynamic torque on an asymmetric, gravity-stabilized satellite. Gerald S. Nurre (JSR) ... 1046
Strapdown star tracker for space vehicle attitude control. Morris M. Birnbaum and Phil M. Salomon (JSR) ... 1188
Exploitation of nonlinear resonance in damping an elastic dumbbell satellite. Ralph Pringle Jr. (AIAA J) ... 1217
Synthesis of a system for the optimum stabilization of a space station. A. M. Letov (AIAA J) ... 1240
A dynamic stability study of a centrifuge-equipped space station. R. K. Sleeper and H. C. Lester (JSR) ... 1432
Gravity effects on the rotational motion of a uniaxial artificial satellite. Jack W. Crenshaw and Philip M. Fitzpatrick (AIAA J) ... 2140
Stability of two tethered unsymmetrical earth-pointing bodies. T. R. Robe (AIAA J) ... 2282
Drift angle acuity in determination of attitude of orbital spacecraft. F. E. Neumeyer (JSR, EN) ... 213
Optimum viscous damping of a gravity-gradient-stabilized satellite. F. Taft Murray and Theodore E. Babine (JSR, EN) ... 235
Observations of hysteresis damping in a spinning satellite. William B. Smith and Irwin I. Shapiro (JSR, EN) ... 337
Stable rotation states of dual-spin spacecraft. Gerald J. Cloutier (JSR, EN) ... 490
Some remarks on the dynamics of deformable bodies. R. D. Milne (AIAA J, TN) ... 556
Roll resonance for a gravity-gradient satellite. J. M. Whisnant and D. K. Anand (JSR, EN) ... 743
Kinematical equations for bodies whose rotation is described by the Euler-Rodrigues parameter. Robert E. Roberson (AIAA J, TN) ... 916
Energy considerations for attitude stability of dual-spin spacecraft. Bertrand T. Fang (JSR, EN) ... 1241
Accuracy of the numerically generated integral manifolds. R. C. Brereton and V. J. Modi (AIAA J, TN) ... 1415
Stability criteria for a rotating space station with a nonrotating hub. Fred Austin (AIAA J, TN) ... 2211
Torque on a satellite in a general gravitational field. Robert E. Roberson (AIAA J, TC) ... 572

Entry Vehicle Dynamics and Control

Recent studies of factors affecting high lift-drag ratios at Mach 19 in helium. W. C. Woods, P. J. Johnston, J. K. Molloy, and A. Henderson Jr. (JSR) ... 90
Surveyor spacecraft landing accuracy. J. J. Ribarich (JSR) ... 768
A neighboring optimum feedback control scheme based on estimated time-to-go with application to re-entry flight paths. Jason L. Speyer and Arthur E. Bryson Jr. (AIAA J) ... 769
Performance of a Mars soft lander with staged propulsion. James H. Kelley and Lawrence J. Ginsberg (JSR) ... 774
Propulsive-lift landing of manned entry vehicles. William J. Nelson and Ken S. Coward (JSR) ... 781
Dynamic stability analysis of bodies of revolution in supersonic flow. M. F. Platzer and A. D. Sherer (JSR) ... 833
Postflight Apollo command module aerodynamic simulation tests. B. J. Griffith and D. E. Boylan (JSR) ... 843
Manned Earth entry at hyperbolic velocities. J. F. McCarthy Jr. and G. M. Hanley (JSR) ... 1009
Boundary conditions for persistant roll resonance on re-entry vehicles. Harold R. Vaughn (AIAA J) ... 1030
Instability of high-drag planetary entry vehicles at subsonic speeds. Donna L. Shirley and John E. Misselhorn (JSR) ... 1165
Phase plane methods for toppling stability analysis of landing spacecraft. Dale R. Williamson and Peter W. Likins (JSR) ... 1452
Inertial navigation errors for a lifting re-entry vehicle. J. C. Elsey and G. E. Carlson (JSR, EN) ... 604
Steering control of skid-equipped horizontally landing spacecraft. Denis J. Feld (JSR, EN) ... 1103
Dynamic stability of symmetric spinning missiles. T. J. Coakley (JSR, EN) ... 1231
Guidance law and impact prediction for interplanetary vehicles. Roger W. Johnson (JSR, EN) ... 1235
An explicit closed-loop controller for gravity turn landing maneuvers. J. C. Dunn and F. Sobierajski (AIAA J, TN) ... 2424

Spacecraft Communication Systems

Data return advantages of Earth-Mars-Earth trajectories. Peter H. Feitis (JSR) ... 390
Thermo/structural analysis of a large flexible paraboloid antenna. F. A. Florio and A. T. Josloff (JSR) ... 1417
Tracking and communications for planetary manned mission. F. O. Vonbun and J. T. Mengel (JSR, EN) ... 863
Maritime satellite service. Mario W. Cardullo (JSR, EN) ... 1479

Spacecraft Navigation, Guidance, and Flight-Path Control Systems

Advanced spacecraft stabilization and control techniques. A. E. Sabroff (JSR, SA) ... 1377
Calculations of the interaction of the solar plasma with the magnetic field of a current loop and two parallel infinite lines of current. Daniel J. McKinzie Jr. and Anthony L. Julius Jr. (JSR) ... 3
Calibration and spaceborne performance of the surveyor spacecraft star sensor. Jack C. Lansing Jr. (JSR) ... 84
Development of a manual thrust-vector-control mode for Apollo. O. H. Lindquist (JSR) ... 297
Computer-controlled steering of the Apollo spacecraft. Frederick H. Martin and Richard H. Battin (JSR) ... 400
Test performance of an experimental laser radar for rendezvous and docking. Charles L. Wyman (JSR) ... 430
Maneuverable geodetic satellites in resonant orbits. Robert H. Greene (JSR) ... 497
Optimum mixing of gyroscope and star tracker data. J. E. Potter and W. E. Vander Velde (JSR) ... 536
Dynamics of the Apollo electromechanical actuator. G. E. Tutt and J. A. Jansen (JSR) ... 541

Grand tours of the Jovian planets. Brent W. Silver (JSR) 633
Gyro reliability in the Apollo guidance, navigation, and control system. John E. Miller and Julius Feldman (JSR) 638
Terminal guidance for soft and accurate lunar landing for unmanned spacecraft. T. Y. Feng and C. A. Wasynczuk (JSR) 644
Hand-held sextant: Results from Gemini XII and flight simulator experiments. Donald W. Smith (JSR) 655
Estimation using sampled data containing sequentially correlated noise. A. E. Bryson, Jr. and L. J. Henrikson (JSR) 662
Surveyor spacecraft landing accuracy. J. J. Ribarich (JSR) 768
Orbit adjustment of sun-synchronous satellites with electric propulsion. Curtiss C. Barrett (JSR) 792
Orbital gyrocompassing heading reference. J. L. Bowers, J. J. Rodden, E. D. Scott, and D. B. DeBra (JSR) 903
A performance study of the Lunar Module's landing radar system. J. Eichler (JSR) 1016
Development of the Gemini operational rendezvous plan. Richard P. Parten and John P. Mayer (JSR) 1023
A precision, active, table-leveling system. Daniel B. DeBra, James C. Mathiesen, and Richard A. Van Patten (JSR) 1040
A manual optimal guidance scheme using a predictive model. James D. Gilchrist and Duane E. Soland (JSR) 1181
Suboptimal flight plans for injection of synchronous satellites. Alan M. Schneider (JSR, EN) 236
Stationkeeping at 24-hr satellite using solar radiation pressure. W. L. Black, M. C. Crocker, and E. H. Swenson (JSR, EN) 335
Effect of correlated sextant measurement errors on circumlunar flight. Peter Philliou (JSR, EN) 340
Sensitivity requirements for star-field sensors. Louis A. Kleiman (JSR, EN) 728
Minimum variance estimates of gyroscopic drift parameters. Charles F. Price (JSR, EN) 747
Analytic simulation of spacecraft sensor outputs. Norris R. Burton (JSR, EN) 749
Atmospheric entry employing range sensitivity. James W. Watson and Allen R. Stubberud (JSR, EN) 983
Validation of checkout procedures by computer simulation. Robert L. Jaegly (JSR, EN) 1003
Surveillance-system sensor misassociation of one object with another. Robert M. L. Baker Jr. (JSR, EN) 1494

Spacecraft and Component Ground Testing and Simulation

Test performance of an experimental laser radar for rendezvous and docking. Charles L. Wyman (JSR) 430
Gyro reliability in the Apollo guidance, navigation, and control system. John E. Miller and Julius Feldman (JSR) 638
Hand-held sextant: Results from Gemini XII and flight simulator experiments. Donald W. Smith (JSR) 655
A precision, active, table-leveling system. Daniel B. DeBra, James C. Mathiesen, and Richard A. Van Patten (JSR) 1040
A detonation tube technique for simulating rocket plumes in a space environment. Jarvis Leng, Richard A. Oman, and Harold B. Hopkins (JSR) 1148
Jet-boundary simulation parameters for underexpanded jets in a quiescent atmosphere. R. D. Herron (JSR) 1155
Development of an onboard checkout system simulator using an alphanumeric display. R. J. Bier and S. D. Brolly (JSR) 1199
Accurate surface temperature measurements at liquid-helium conditions in space environment facilities. John F. Cassidy and Walter M. Krawczonek (JSR) 1291
Present status of colloid microthruster technology. M. N. Huberman, J. C. Beynon, E. Cohen, D. S. Goldin, P. W. Kidd, and S. Zafran (JSR) 1319
An analog technique for the equalization of multiple electromagnetic shakers for vibration testing. Marc R. Trubert (JSR) 1438
Drift angle acuity in determination of attitude of orbital spacecraft. F. E. Neumeyer (JSR, EN) 213
Martian sand and dust storms and effects on spacecraft coatings. Gary R. Dyhouse (JSR, EN) 473
A gimbal system for solar simulation testing. R. G. Hertzler and A. G. Burke III (JSR, EN) 476
An inertial test laboratory 1100 ft below the earth's surface. W. M. Weil, W. E. Srode, and R. M. Burrows Jr. (JSR, EN) 478
A new technique for simulating space-charge potential distributions. Walter C. Lathem (JSR, EN) 737
Simulation of manned lunar surface operations. Joseph L. Seminara (JSR, EN) 979
Failure analysis and environmental testing of the intelsat II apogee motor. A. M. McCaskill and A. A. Cimino (JSR, EN) 1002
High-enthalpy re-entry simulation for planetary return missions. John W. Schaefer and Donald T. Flood (JSR, EN) 1108

Spacecraft Flight Testing

Large-scale decelerator flight tests simulating a Mars environment. Reginald R. Lundstrom, Wayne L. Darnell, and Allen B. Henning (JSR, EN) 1106

Reentry Vehicle Testing

Spacecraft Habitability and Life Support Systems

A dynamic stability study of a centrifuge-equipped space station. R. K. Sleeper and H. C. Lester (JSR) 1432

Space Medicine (Including Weightlessness, Radiation Effects, Psychology, etc.)

Radiation dosimetry on the Gemini and Apollo missions. Carlos S. Warren, Joseph C. Lill, Robert G. Richmond and William G. Davis (JSR) 207
Aerodynamic drag of a spacecraft centrifuge for crew reconditioning. Alain G. Mona (JSR, EN) 993

Spacecraft Sterilization

Insulation evaluation tests for voyager mission. C. S. Lankton, S. J. Babjak, J. R. Crosby, and D. Ting (JSR) 1285
Interplanetary spacecraft decontamination operations and equipment. Robert Bueker and Myra T. Willard (JSR, EN) 990

Extra-Vehicular Activity

High-fidelity underwater simulation of manned space activities. S. E. Goldstein and U. R. Alvarado (JSR) 595
Flight test evaluation of a small one-man lunar flying device. Maxwell W. Goode and Lee H. Person Jr. (JSR) 1468

Crew Training

High-fidelity underwater simulation of manned space activities. S. E. Goldstein and U. R. Alvarado (JSR) 595
Hand-held sextant: Results from Gemini XII and flight stimulator experiments. Donald W. Smith (JSR) 655
Development of an onboard checkout system simulator using an alphanumeric display. R. J. Bier and S. D. Brolly (JSR) 1199

Data Sensing and Presentation or Transmission Systems

Princeton experiment package for OAO-C. Norman A. Gundersen (JSR) 383
Test performance of an experimental laser radar for rendezvous and docking. Charles L. Wyman (JSR) 430
Radially vibrating, rotating gravitational gradient sensor. V. Chobotov (JSR) 434
Photographic exploration of Mars with solar-electric propulsion. L. H. Wood, W. G. Prasthofer, and R. I. Vachon (JSR) 503
A method for studying planetary atmospheres employing the dual flyby mode. J. Michael Coogan (JSR) 625
A performance study of the Lunar Module's landing radar system. J. Eichler (JSR) 1016
Effects of mechanical imperfections on performance of a rotating gravity gradiometer. David Berman (JSR) 1193
Development of an onboard checkout system simulator using an alphanumeric display. R. J. Bier and S. D. Brolly (JSR) 1199
Trailing camera. John L. Colp, William B. Pepper, Perry R. Wilkes, and Harold E. Widdows (JSR, EN) 616
Sensitivity requirements for star-field sensors. Louis A. Kleiman (JSR, EN) 728
Tracking and communications for planetary manned mission. F. O. Vonbun and J. T. Mengel (JSR, EN) 863
Surveillance-system sensor misassociation of one object with another. Robert M. L. Baker Jr. (JSR, EN) 1494

MARINE TECHNOLOGY

Surface Vessel Systems

Rx craft, a manned model of the RCN hydrofoil ship "Bras d'Or." E. A. Jones (JH, Vol. 1) 41
U.S. Navy hydrofoil craft. William M. Ellsworth (JH, Vol. 1) 66
Comment on "U.S. Navy hydrofoil craft." Alex N. Petroff (JH, Vol. 2, TC) 176
Captured air bubble (CAB) vehicle progress report. Allen G. Ford (JH, Vol. 2) 81
Some special problems in surface effect ships. Robert D. Waldo (JH, Vol. 2) 152

Submerged Vessel Systems

Deep ocean work boat (DOWB), an advanced deep submergence vehicle. Scott C. Daubin (JH, Vol. 2) 40

Mining Systems

Vessel and Control Surface Hydrodynamics

A hydrodynamic theory for cavitating delta wing hydrofoils. Paul Kaplan, Theodore R. Goodman, and C. C. Chen (JH, Vol. 1) 81
Deflection and diffusion of a rectangular jet by the edge suction effect. Edward S. Tillman Jr. and Fernando Sisto Jr. (JH, Vol. 1) 108
A brief review of supercavitating hydrofoils. Y. K. Hsu (JH, Vol. 2) 192

Propulsion System Hydrodynamics

Integrated hull design, boundary-layer control, and propulsion of submerged bodies. F. R. Goldschmied (JH, Vol. 1) 2
Optimization of waterjet propulsion for high-speed ships. L. Arcand and C. R. Comolli (JH, Vol. 2) 2
Selection of hydrofoil waterjet propulsion systems. Ross Hatte and Hugh J. Davis (JH, Vol. 1) 12
Water-augmented turbofan engine. W. Richard Davison and Thomas J. Sadowski (JH, Vol. 2) 14
Performance of waterjet propulsion systems—A review of the state-of-the-art. John H. Brandau (JH, Vol. 2) 61
Some experimental results of tests of a low-speed, waterjet propulsion system. Martin Delao (JH, Vol. 1) 97
Ducted propellers for high-speed underwater propulsion. S. Thurston and M. S. Evanbar (JH, Vol. 2) 145

Undersea Acoustics

Marine Propulsion System Integration

Electromagnetic propulsion for cargo submarines. S. Way (JH, Vol. 2) 49

Marine Electric Power Systems

Selection and utilization of batteries for deep submergence vehicles. N. Kuska and J. A. Cronander (JH, Vol. 2) 20

Marine Vessel Design (Including Loads)

Pressure hulls for deep-submergence vehicles. Harold Bernstein (JH, Vol. 1) 22
Structural research on submarine pressure hulls at the David Taylor Model Basin. Martin A. Krenzke and Thomas E. Reynolds (JH, Vol. 1) 27
Weight comparison of ring-vs ring/stringer-stiffened cylindrical pressure hulls. A. Bruce Burns (JH, Vol. 2) 113

Corrosion/Erosion of Materials in Sea Water

Evaluation of aluminum after one-year deep sea exposure. William H. Ailor Jr. (JH, Vol. 2) 26

Marine Vessel Vibration

Roller traction drive unit for extremely quiet power transmission. Lubomyr O. Hewko (JH, Vol. 2) 160

Marine Vessel Trajectories, Stability, and Control

Prediction of the seakeeping characteristics of hydrofoil ships. Irving A. Hirsch (JH, Vol. 2) 8
Development of an autopilot for the Dolphin hydrofoil. H. D. Ranzenhofer (JH, Vol. 1) 73
Equations of motion of a deep submergence rescue vehicle with active mercury damping control. Ronald D. Palamara and Wendell J. Bridges (JH, Vol. 2) 74
Cruising and hovering response of a tail-stabilized submersible. Albert Strumpf (JH, Vol. 1) 89
Underwater hovering control with fluidic amplifiers. Fabio R. Goldschmied (JH, Vol. 2) 102
Influence of design features on underwater towed system stability. N. E. Jeffrey (JH, Vol. 2) 205
A three-dimensional dynamic analysis of a towed system. Jeffrey W. Schram and Stanley P. Reyle (JH, Vol. 2) 213

Undersea Navigation and Guidance

Undersea Communication

Marine Systems Testing

Laboratory simulation of the deep-ocean environment. Kenneth O. Gray (JH, Vol. 1) 54

Undersea Extra-Vehicular Activity

Auxiliary power for man in the sea. Robert Taggart (JH, Vol. 1) .. 60

Undersea Habitability and Life Support Systems

Operational considerations for wet life-support equipment from submerged facilities. Jon M. Lindbergh (JH, Vol. 2) 58
Structures/materials synthesis for safety of oceanic deep-submergence bottom-fixed manned habitat. Nielkanth J. Shen-D'Ge' (JH, Vol. 2) 120
Design considerations of manned ambient-pressure habitats. Lawrence S. Jue (JH, Vol. 2) 131
Saturation diving system design considerations. Walter Penzias (JH, Vol. 2) 137
Safety in the Cachalot saturation diving system operations. Ted L. Cox (JH, Vol. 2) 187
Design of an articulated, 1-atm, undersea suit. Giusto Fonda-Bonardi and C. Peter Buckley (JH, Vol. 1, EN) 114

Undersea Medicine (Including Psychology, Pressure Effects, etc.)

Behavioral cybernetic theory applied to ship/manipulator control in small submarines. Alan J. Pesch (JH, Vol. 1) 35
Physiologic mechanisms of maintaining thermal balance in high-pressure environments. Lawrence W. Raymond (JH, Vol. 1) 102

Physical and Biological Oceanography

Internal thermal structures in the ocean. Eugene C. LaFond and Katherine G. LaFond (JH, Vol. 1) 48
Dynamics of a floating ice sheet. Herbert Reismann and Yu-Chung Lee (JH, Vol. 2) 108

PROPULSION

Properties of Fuels and Propellants

Statistical service life prediction: Minuteman third-stage propellant grain. R. N. Chappell, F. R. Jensen, and R. W. Burton (JSR) 42
Pressure collapse in oxygen storage under zero-g. D. V. Kamat and W. H. Abraham (JSR) 184
Structural failure criterion for solid propellants under multiaxial stresses. Adam R. Zak (JSR) 265
Structural analysis of realistic solid-propellant materials. Adam R. Zak (JSR) 270
Non-Newtonian fuels for aircraft safety. A. Beerbower, J. Nixon, and T. J. Wallace (JA) 367
Application of trioxygen difluoride in liquid-rocket-propellant technology. Lionel A. Dickinson, A. B. Amster, and E. L. Capener (JSR) 1329
Estimation of theoretical performance of propellants containing C, H, O, N, F. A. H. Lepie, M. F. Zimmer, and E. E. Baroody (AIAA J, TN) 179
Combustion characteristics of crystalline oxidizers. E. E. Hackman III and H. C. Beachell (AIAA J, TN) 561
Role of the emulsifying agent in PBAA composite propellants. L. Dauerman and G. E. Salser (AIAA J, TN) 725
Significance of explosive intermediates in rocket engine combustion. Thomas F. Reinhardt (AIAA J, TN) 748
Predicted thermal conductivity: Gaseous and liquid para-hydrogen. D. Jack Elzinga and George Thodos (JSR, EN) 868
Effect of AP particle size on solid-propellant combustion efficiency. Robert C. Smith Jr. (JSR, EN) 1360
High-density fuel to extend range of ramjet missile. Richard B. Farrar (JSR, EN) 1364
Stress concentrations around elliptical perforations in shrunk plates with bonded boundaries. August J. Durelli, Vincent J. Parks, and Han-Chow Lee (JSR, EN) 1499

Combustion in Gases

Photometric measurements on the deviations from the equilibrium state in flames. Tj. Hollander (AIAA J, SA) 385
Studies of combustion efficiency and flame shape for opposed-jet flameholders. George W. Douglas and John R O'Loughlin (AIAA J) 672
Reactions and expansion of hypergolic propellants in a vacuum. J. A. Simmons, R. D. Gift, J. M. Spurlock, and R. F. Fletcher (AIAA J) .. 887
Ignition delay in diffusive supersonic combustion. I. Da-Riva and J. L. Urrutia (AIAA J) 2095
Possible weight saving from catalysis of recombination in hydrogen rockets. J. A. Lordi, R. E. Mates, and A. Hertzberg (AIAA J, TN) 172
Electromagnetic influences in a hydro en-oxygen rocket combustor. Ronald Razner (AIAA J, TN) 1201
Supersonic combustion of propane. Louis J. Spadaccini and Wallace Chinitz (AIAA J, TN) 1391
Influence of Lorentz forces on flame-holding. Roger A. Lucheta (AIAA J, TN) 1420
Boron containing polymers as potential rocket propellants. R. P. Rastogi and S. K. Baijal (AIAA J, TN) 1815
Evidence for the formation of azides in the N_2H_4/N_2O_4 reaction. A. B. Ray, G. Koehler, G. E. Salser, and L. Dauerman (AIAA J, TN) 2186

Combustion in Heterogeneous Media

Spin acceleration effects on some full-scale rocket motors. Melvin H. Lucy (JSR) 179
An investigation of the effect of acceleration on the burning rate of composite propellants. J. B. Anderson and R. E. Reichenbach (AIAA J) 271

Nonsteady burning phenomena of solid propellants: Theory and experiments. H. Krier, J. S. T'ien, W. A. Sirignano, and M. Summerfield (AIAA J) ... 278
Pressure wave generation in particle-fueled combustion systems: II. Influence of particle motion. C. W. Busch, A. S. Warnock, A. J. Laderman, and A. K. Oppenheim (AIAA J) ... 286
Depressurization induced extinction of burning solid propellant. M. D. Horton, P. S. Bruno, and E. C. Graesser (AIAA J) ... 292
Effect of surface reactions on the solid propellant response function. G. A. Marxman and C. E. Woodridge (AIAA J) ... 471
Surface reaction effects on the acoustic response of composite solid propellants. R. S. Brown, R. J. Muzzy, and M. E. Steinle (AIAA J) ... 479
Influence of storable propellant liquid rocket design parameters on combustion instability. C. J. Abbe, C. W. McLaughlin, and R. R. Weiss (JSR) ... 584
Solid-phase reactions of a double-base propellant. L. Dauerman and Y. A. Tajima (AIAA J) ... 678
Ignition and combustion of monopropellant droplets. G. M. Faeth, B. L. Karhan, and G. A. Yanyecic (AIAA J) ... 684
A study of T-burner behavior. C. L. Oberg, N. W. Ryan, and A. D. Baer (AIAA J) ... 1131
Linear pyrolysis of polymethylmethacrylate during combustion. Robert F. McAlevy III, Suh Yong Lee, and Westcott H. Smith (AIAA J) ... 1137
Investigation of the AP composite solid-propellant deflagration mechanism by means of experimental analog techniques. Robert F. McAlevy III, Suh Yong Lee, Richard B. Cole, Frank A. Lastrina, and Norman A. Samurin (AIAA J) ... 1243
Contribution of solid-phase heat relea e to AP composite-propellant burning rate. L. H. Caveny and Charles U. Pittman Jr. (AIAA J) ... 1461
Decompositional burning of a droplet in a small Peclet number flow. Francis E. Fendell (AIAA J) ... 1946
Variable property effects on liquid droplet combustion. David R. Kassoy and Forman A. Williams (AIAA J) ... 1961
Acoustic response function equation for a T-burner with high heat loss. George L. Dehority and H. B. Mathes (AIAA J, TN) ... 741
Significance of explosive intermediates in rocket engine combustion. Thomas F. Reinhardt (AIAA J, TN) ... 748
Experimental investigation of the erosive burning of solid-propellant grains with variable port area. Arie Peretz (AIAA J, TN) ... 910
A pulsed T-burner technique. C. L. Oberg, N. W. Ryan, and A. D. Baer (AIAA J, TN) ... 920
Combustion of ammonium perchlorate—some negative conclusions. Joseph Wenograd and Reuel Shinnar (AIAA J, TN) ... 964
An experimental study of the effects of particle cloud impingement. W. C. Kuby and C. H. Lewis (AIAA J, TN) ... 1385
Burning velocity of ammonium perchlorate strands and crystals. L. J. Shannon and E. E. Petersen (AIAA J, TN) ... 1594

Combustion Stability, Ignition, and Detonation

A review of calculations for unsteady burning of a solid propellant. F. E. C. Culick (AIAA J, SA) ... 2241
Solution of the high-vacuum hard-start problem of the IRFNA-UDMH rocket for Gemini Agena. F. A. Boorady and D. A. Douglass (JSR) ... 22
Fluid dynamic effects on Apollo engine pressure spikes. R. S. Valentine, F. S. Rossi, and R. V. Kromrey (JSR) ... 31
Combustion instability: The relationship between acoustic and nonacoustic instability. Carl L. Oberg (AIAA J) ... 265
M-1 injector development-philosophy and implementation. William A. Tomazic, E. William Conrad, and Thomas W. Goodwin (JSR) ... 282
Ignition transients in small hypergolic rockets. Warren Juran and R. Carl Stechman (JSR) ... 288
Recent progress in evaluating the detonation characteristics of solid-composite propellant. R. B. Elwell, O. R. Irwin, P. K. Salzman, and N. H. Valor (AIAA J) ... 489
Influence of storable propellant liquid rocket design parameters on combustion instability. C. J. Abbe, C. W. McLaughlin, and R. R. Weiss (JSR) ... 584
An approximate but complete model for the ignition response of solid propellants. A. D. Baer and N. W. Ryan (AIAA J) ... 872
A critical analysis of arc image ignition of solid propellants. T. J. Ohlemiller and M. Summerfield (AIAA J) ... 878
Heat-resistant explosives for space applications. E. E. Kilmer (JSR) ... 1216
An experimental description of destructive liquid rocket resonant combustion. R. M. Clayton, R. S. Rogero, and J. G. Sotter (AIAA J) ... 1252
Instrumented card-gap test. John Ribovich, Richard W. Watson, and Frank C. Gibson (AIAA J) ... 1260
Development of a spark ignition system for a ramjet missile. L. G. De Grace (JSR) ... 1325
Application of trioxygen difluoride in liquid-rocket-propellant technology. Lionel A. Dickinson, A. B. Amster, and E. L. Capener (JSR) ... 1329
Thermal decomposition and combustion of nitrocellulose. L. Dauerman and Y. A. Tajima (AIAA J) ... 1468
Investigation of the detonation of aluminum powder-oxygen mixtures. William A. Strauss (AIAA J) ... 1753
Combustion stability in an annular gas combustor. John M. Bonnell (AIAA J) ... 1941
A theoretical study of nonlinear combustion instability in liquid-propellant rocket engines. Ben T. Zinn (AIAA J) ... 1966
Correlations between deflagration characteristics and surface properties of nitramine-based propellants. R. Zimmer-Galler (AIAA J) ... 2107
Preignition phenomena in small A-50/NTO pulsed rocket engines. H. E. Perlee, T. Christos, Y. Miron, and H. K. James (JSR, EN) ... 233
Comments on "Preignition phenomena in small A-50/NTO pulses rocket engines." Charles W. Baulknight (JSR, TC) ... 1008
Reply by authors to C. W. Baulknight. H. E. Perlee, V. Miron, and H. K. James (JSR, TC) ... 1008
Mode coupling in solid-propellant rocket motors. Samuel Temkin (AIAA J, TN) ... 560
Propagation of pressure waves in high-frequency combustion oscillation. Hiroshi Tsuji and Tadao Takeno (AIAA J, TN) ... 730
Significance of explosive intermediates in rocket engine combustion. Thomas F. Reinhardt (AIAA J, TN) ... 748
Large-amplitude transverse instability in rocket motors. Samuel Temkin (AIAA J, TN) ... 1202
Liquid-propellant explosions. R. F. Fletcher (JSR, EN) ... 1227
Extinguishment of solid propellants by rapid depressurization. Guenther von Elbe and Edward T. McHale (AIAA J, TN) ... 1417
Some nonacoustic instabilities in rocket chambers are acoustic. F. E. C. Culick (AIAA J, TN) ... 1421
Ignition of nonhypergolic propellants with hypergolic fluids. N. L. Munjal (AIAA J, TN) ... 1782
Comments on "Surface exotherm reaction during ignition of ammonium perchlorate propellants." J. Pantoflíček and F. Lébr (AIAA J, TC) ... 1435
Reply by author to J. Pantoflíček and F. Lébr. Norman Fishman (AIAA J, TC) ... 1436

Subsonic and Supersonic Airbreathing Propulsion

Review of SCRAMJET propulsion technology. A. Ferri (JA, SA) ... 3
Subsonic aerodynamic performance of nozzle installations in supersonic airplanes. R. S. Armstrong and S. R. Miller (JA) ... 230
Attenuation of circumferential inlet distortion in multistage axial compressors. G. A. Plourde and A. H. Stenning (JA) ... 236
Improved methods of spillage drag prediction for two-dimensional inlets. R. V. Osmon (JA) ... 254
A new formulation of the thermodynamic limits on the performance of chemical and nuclear engines. A. G. Hammitt (JSR) ... 276
A simplified, preliminary comparison between the ejector ramjet and the shrouded rocket. Ola Brevig (JSR) ... 444
Design and development of an air intake for a supersonic transport aircraft. I. H. Rettie and W. G. E. Lewis (JA) ... 513
Theory and test of flow mixing for turbofan engines. A. Hartmann (JA) ... 522
Development of a spark ignition system for a ramjet missile. L. G. De Grace (JSR) ... 1325
Ignition delay in diffusive supersonic combustion. L. Da-Riva and J. L. Urrutia (AIAA J) ... 2095
High-density fuel to extend range of ramjet missile. Richard B. Farrar (JST, EN) ... 1364
A remark concerning engine-inlet distortion. Mark B. Sussman (JA, TC) ... 95

Hypersonic Airbreathing Propulsion

Review of SCRAMJET propulsion technology. A. Ferri (JA, SA) ... 3
Materials for small radius leading edges for hypersonic vehicles. Maynard L. Hill (JSR) ... 55
Effects of thermal compression on the performance estimates of hypersonic ramjets. F. S. Billig, R. C. Orth and M. Lasky (JSR) ... 1076

VTOL Propulsion

Powerplant aspects of high-speed, inter-city VTOL aircraft. D. J. Pickerell and R. A. Cresswell (JA) ... 467

Solid and Hybrid Rocket Engines

Statistical service life prediction: Minuteman third-stage propellant grain. R. N. Chappell, F. R. Jensen, and R. W. Burton (JSR) ... 42
Theoretical assessment of some combustion and expansion problems in rocket motors. David M. Adams (JSR) ... 173
Spin acceleration effects on some full-scale rocket motors. Melvin H. Lucy (JSR) ... 179
Errata: "Spin acceleration effects on some full-scale rocket motors." Melvin H. Lucy (JSR, TC) ... 1504
Structural failure criterion for solid propellants under multiaxial stresses. Adam R. Zak (JSR) ... 265
Structural analysis of realistic solid-propellant materials. Adam R. Zak (JSR) ... 270
Two-dimensional transient ablation and heat conduction analysis for multimaterial thrust chamber walls. H. A. Friedman and B. L. McFarland (JSR) ... 753
A building-block approach to Saturn V uprating using solid-propellant motors. J. W. Monroe and C. J. Corso (JSR) ... 827
Circumferential modes of vibration of a model for a solid-propellant rocket. J. D. Achenbach and F. H. Chou (JSR) ... 964
Scattered light photoelastic thermal stress analysis of a solid-propellant rocket motor. D. W. Braswell, W. F. Ranson, and W. F. Swinson (JSR) ... 1411
Quasi-elastic failure analysis of a solid-propellant rocket motor under thermal variations. W. G. Knauss (AIAA J) ... 2101
Heat-transfer solution for a gas/particle mixture losing heat to parallel boundaries. Michael J. McIntosh (JSR, EN) ... 114
Initial pressure peaks in rocket motors and interruption by venting. F. R. Wallis (JSR, EN) ... 481
Solid-propellant pulsed plasma microthruster studies. William J. Guman and Paul E. Peko (JSR, EN) ... 732
Failure analysis and environmental testing of the Intelsat II apogee motor. A. M. McCaskill and A. A. Cimino (JSR, EN) ... 1002
Effect of AP particle size on solid-propellant combustion efficiency. Robert C. Smith Jr. (JSR, EN) ... 1360

An experimental study of the effects of particle cloud impingement. W. C. Kuby and C. H. Lewis (AIAA J, TN) ... 1385
Extinguishment of solid propellants by rapid depressurization. Guenther von Elbe and Edward T. McHale (AIAA J, TN) ... 1417
Stress concentrations around elliptical perforations in shrunk plates with bonded boundaries. August J. Durelli, Vincent J. Parks, and Han-Chow Lee (JSR, EN) ... 1499
Boron containing polymers as potential rocket propellants. R. P. Rastogi and S. K. Baijal (AIAA J, TN) ... 1815
Comment on "Thermal radiation from the exhaust plume of an aluminized composite propellant rocket." A. J. Laderman and D. J. Carlson (JSR, TC) ... 239

Liquid Rocket Engines

Solution of the high-vacuum hard-start problem of the IRFNA-UDMH rocket for Gemini Agena. F. A. Boorady and D. A. Douglass (JSR) ... 22
Fluid dynamic effects on Apollo engine pressure spikes. R. S. Valentine, F. S. Rossi, and R. V. Kromrey (JSR) ... 31
Lunar orbiter velocity control system. H. H. Nye and D. W. Moorman (JSR) ... 139
Dual-mode, 100: 1 thrust modulation rocket engine. Lee Carey (JSR) ... 168
Theoretical assessment of some combustion and expansion problems in rocket motors. David M. Adams (JSR) ... 173
A new formulation of the thermodynamic limits on the performance of chemical and nuclear engines. A. G. Hammitt (JSR) ... 276
M-1 injector development—Philosophy and implementation. William A. Tomazic, E. William Conrad, and Thomas W. Goodwin (JSR) ... 282
Ignition transients in small hypergolic rockets. Warren Juran and R. Carl Stechman (JSR) ... 288
Pneumatic logic rocket engine sequence control. S. E. Milleman (JSR) ... 439
Inert calibration of deep-throttling bipropellant rocket engines. Robert D. Baker (JSR) ... 578
Influence of storable propellant liquid rocket design parameters on combustion instability. C. J. Abbe, C. W. McLaughlin, and R. R. Weiss (JSR) ... 584
Laminar boundary-layer heat transfer in low-thrust rocket nozzles. L. Schoenman and P. Block (JSR) ... 1082
Kinetic performance of barrier-cooled rocket nozzles. Victor Quan, John E. Melde, James R. Kliegel, Gary R. Nickerson, and Henry M. Frey (JSR) ... 1137
Application of trioxygen difluoride in liquid-rocket-propellant technology. Lionel A. Dickinson, A. B. Amster, and E. L. Capener (JSR) ... 1329
Fracture process in fluorocarbon laminate composites. Manuel E. Prado (JSR) ... 1393
Hydrazine-chlorine pentafluoride reaction in a laboratory rocket combustor. Robert F. Sawyer, E. T. McMullen, and Peteris Purgalis (AIAA J) ... 2111
Theoretical effect of nonequilibrium combustion on N_2H_4/N_2O_4 propellant performance. Robert F. Sawyer (JSR, EN) ... 116
Possible weight saving from catalysis of recombination in hydrogen rockets. J. A. Lordi, R. E. Mates, and A. Hertzberg (AIAA J, TN) ... 172
Preignition phenomena in small A-50/NTO pulsed rocket engines. H. E. Perlee, T. Christos, Y. Miron, and H. K. James (JSR, EN) ... 233
Comments on "Preignition phenomena in small A-50/NTO pulsed rocket engines." Charles W. Baulknight (JSR, TC) ... 1008
Reply by authors to C. W. Baulknight. H. E. Perlee, Y. Miron, and H. K. James (JSR, TC) ... 1008
Three advanced micro-orifice injector rocket motors. M. Adelberg (JSR, EN) ... 353
Determination of the interior ballistic properties of solid propellants from progressive burning grains data. Elieser Spiegler and Ephraim Michaeli (JSR, EN) ... 623
Application of the MIRA 150A variable-thrust engine to manned lunar flying systems. R. J. Johnson, B. R. Boyd, and T. H. Smith (JSR, EN) ... 849
Frequency response determination using white noise excitation. D. A. McCalister and L. L. Bickford (JSR, EN) ... 872
Optimal configuration for a zero-g nucleonic fuel gage. Robert J. Pfeifer (JSR, EN) ... 985
Saturn IB first-stage propellant loading principles, accuracies, and future improvements. W. S. Parker and R. L. Barrows (JSR, EN) ... 1355

Nuclear Propulsion

Survey of advanced concepts in nuclear propulsion. G. H. McLafferty (JSR, SA) ... 1121
A new formulation of the thermodynamic limits on the performance of chemical and nuclear engines. A. G. Hammitt (JSR) ... 276
Open-cycle and light-bulb types of vortex-stabilized gaseous nuclear rockets. James W. Clark, Bruce V. Johnson, John S. Kendall, Arthur E. Messing, and Arthur Travers (JSR) ... 941
Analysis of a very high temperature liquid alloy heat exchanger for hydrogen. Edward T. Peters and Larry Kaufman (JSR) ... 1070
Heat-transfer predictions in the cooling passages of nuclear rocket nozzles. Maynard F. Taylor (JSR, EN) ... 1353
Test facility for 5000-Mw nuclear rocket propulsion modules. A. Schaff Jr. (JSR, EN) ... 222
Experimental exploration of recirculation zone in the gas-core nuclear rocket concept. C. C. Chang, S. W. Chi, and C. M. Chen (JSR, EN) ... 480

Electric and Advanced Space Propulsion

Distribution of neutral atoms and charge-exchange ions downstream of an ion thruster. John F. Staggs, William P. Gula, and William R. Kerslake (JSR) ... 159
Performance of a cesium bombardment ion engine with a self-rectifying discharge and automatic controls. Gordon Sohl, R. H. Vernon, K. G. Wood, and T. R. Dillon (JSR) ... 165
Photographic exploration of Mars with solar-electric propulsion. L. H. Wood, W. P. Prasthofer, and R. I. Vachon (JSR) ... 503
Mercury electron-bombardment thruster system. H. J. King (JSR). 591
Design and demonstration of a radioisojet. Robert Viventi Jr. and William C. Isley (JSR) ... 672
A 3-kw solar-electric spacecraft for multiple interplanetary missions. H. F. Meissinger, R. A. Park, and H. M. Hunter (JSR) ... 678
Design and performance of a thermal storage resistojet. Thomas A. Cygnarowicz and Robert N. Gibson Jr. (JSR) ... 686
Applications of combined electric, high-thrust propulsion systems. Alfred C. Mascy, Duane W. Dugan, and Samuel W. Pitts (JSR) ... 785
Oribt adjustment of sun-synchronous satellites with electric propulsion. Curtiss C. Barrett (JSR) ... 792
Discharge chamber optimization of the SERT II thruster. Robert T. Bechtel (JSR) ... 795
Experimental investigation of a 1.5-m-diam Kaufman thruster. S. Nakanishi and E. V. Pawlik (JSR) ... 801
French research on electric propulsion: Present status and prospects for development. E. Le Grivès (JSR) ... 808
A mercury plasma-bridge neutralizer. V. K. Rawlin and E. V. Pawlik (JSR) ... 814
Trajectory optimization for solar-electric powered vehicles. William D. Dickerson and David B. Smith (JSR) ... 889
System concepts for a liquid mercury cathode thruster. H. J. King, J. H. Molitor, and S. Kami (JSR) ... 933
Subsystems analyses for a MORL resistojet control system. A. Pisciotta Jr. and E. Eusanio (JSR) ... 948
Experiments on current rotations in an MPD engine. A. V. Larson (AIAA J) ... 1001
Solar electric low-thrust missions to Jupiter with swingby continuation to the outer planets. G. A. Flandro (JSR) ... 1029
Parametric studies with a single-needle colloid thruster. Philip W. Kidd (JSR) ... 1034
Erratum: "Parametric studies with a single-needle colloid thruster." Philip W. Kidd (JSR, TC) ... 1504
Mercury hollow cathode plasma bridge neutralizers. J. W. Ward and H. J. King (JSR) ... 1161
Solar-electric-propulsion systems for unmanned space missions. J. H. Molitor and R. N. Olson (JSR) ... 1312
Present status of colloid microthruster technology. M. N. Huberman, J. C. Beynon, E. Cohen, D. S. Goldin, P. W. Kidd, and S. Zafran (JSR) ... 1319
Optimal control application for electrothermal multijet systems on synchronous earth spacecraft. William C. Isley (JSR) ... 1444
Stationkeeping at 24-hr satellite using solar radiation pressure. W. L. Black, M. C. Crocker, and E. H. Swenson (JSR, EN) ... 335
High-perveance accelerator grids for low-voltage Kaufman thrusters. S. Nakanishi, E. A. Rickley, and B. A. Banks (JSR, EN) ... 356
Cesium ion engine system life test results. V. V. Fosnight, G. Sohl, S. J. Goldner, and R. C. Speiser (JSR, EN) ... 465
Thrust efficiencies of electromagnetic engines. G. L. Cann and R. L. Harder (AIAA J, TN) ... 558
Theoretical studies on performance of a magnetofluiddynamic (MFD) converging-diverging nozzle. Tarit K. Bose (JSR, EN) ... 617
Thermionic cathodes for Kaufman thrustors. H. E. Gallagher and W. Knauer (JSR, EN) ... 730
Solid-propellant pulsed plasma microthruster studies. William J. Guman and Paul E. Peko (JSR, EN) ... 732
Effects of electrode misalinements in Kaufman thrusters. Walter C. Lathem (JSR, EN) ... 735
A new technique for simulating space-charge potential distributions. Walter C. Lathem (JSR, EN) ... 737
Ten-millipound resistojet performance. Russell J. Page and Robert A. Short (JSR, EN) ... 857
Performance measurements on a pulsed vacuum arc thruster. Rolf Dethlefsen (AIAA J, TN) ... 1197
Automatic controls for facilities and mercury ion thrusters in durability testing. C. R. Nichols and S. J. Obloy (JSR, EN) ... 1484
Comments on "Ion-neutral propulsion in atmospheric media." Algirdas Maciulaitis (AIAA J, TC) ... 1214
Reply by author to A. Maciulaitis. E. A. Christenson (AIAA J, TC) ... 1214

Marine Propulsion

Airbreathing Engine Testing

Impact of air-breathing propulsion system developments on test facilities. F. W. Garry (JA, EN) ... 414
Air augmentation test facility. T. E. Bailey and R. F. Fearn (JSR, EN) ... 610

Rocket Engine Testing

Lunar orbiter velocity control system. H. H. Nye and D. W. Moorman (JSR) ... 139
Spin acceleration effects on some full-scale rocket motors. Melvin H. Lucy (JSR) ... 179
Experience with space simulation in the development of space rocket propulsion systems. L. F. Webster (JSR) ... 293

Inert calibration of deep-throttling bipropellant rocket engines. Robert D. Baker (JSR) ... 578
Design and demonstration of a radioisojet. Robert Viventi Jr. and William C. Isley (JSR) ... 672
Design and Performance of a thermal storage resistojet. Thomas A. Cygnarowicz and Robert N. Gibson Jr. (JSR) ... 686
A large-scale liquid fluorine flow facility development program. J. W. Orr and W. E. Crane (JSR) ... 1129
Limited testing of precracked ceramic rocket nozzles. E. Robinson (JSR) ... 1400
Test facility for 5000-Mw nuclear rocket propulsion modules. A. Schaff Jr. (JSR, EN) ... 222
Cesium ion engine system life test results. V. V. Fosnight, G. Sohl, S. J. Goldner, and R. C. Speiser (JSR, EN) ... 465
Failure analysis and environmental testing of the Intelsat II apogee motor. A. M. McCaskill and A. A. Cimino (JSR, EN) ... 1002
Automatic controls for facilities and mercury ion thrusters in durability testing. C. R. Nichols and S. J. Obloy (JSR, EN) ... 1484

THERMOPHYSICS AND THERMOCHEMISTRY

Atomic, Molecular, and Plasma Properties

A model of chemical releases leading to upper-atmospheric chemi-ion formation. Harold S. Pergament and Arthur Fontijn (AIAA J) ... 94
Measurements of enthalpy in low-density arc-heated flows. Ronald B. Pope (AIAA J) ... 103
Temperature measurement of an alkali metal-seeded plasma in an electric field. T. K. Chu and Chad F. Gottschlich (AIAA J) ... 114
Distribution of neutral atoms and charge-exchange ions downstream of an ion thruster. John F. Staggs, William P. Gula, and William R. Kerslake (JSR) ... 159
Chemistry of electrons in pure-air hypersonic wakes. Emmett A. Sutton (AIAA J) ... 1873
Measurement of ionic recombination rate of nitrogen. Chul Park (AIAA J) ... 2090
Observables testing of ablative materials. Jefferson F. Newton (AIAA J) ... 2255
Approximate closed-form expressions for equilibrium composition of high-temperature air. Czeslaw P. Kentzer and Larry G. Evans (AIAA J, TN) ... 547
Interpretation of band-reversal temperature measurements. A. P. Blom and N. H. Pratt (AIAA J, TN) ... 1172
Spectroscopic study of excited states in an argon plasma. Milton A. Frost III and Frederic A. Wierum Jr. (AIAA J, TN) ... 2043

Liquid and Solid Thermophysical Properties

Thermal protection systems for a Mars-entry vehicle. A. A. Hiltz, D. E. Florence, and D. L. Lowe (JSR) ... 1278
Predicted thermal conductivity: Gaseous and liquid para-hydrogen. D. Jack Elzinga and George Thodos (JSR, EN) ... 868

Material Ablation

A prediction technique for ablative material performance under high-shear re-entry conditions. W. M. Bishop and V. DiCristina (AIAA J) ... 59
Mechanical erosion of charring ablators in ground-test and re-entry environments. P. J. Schneider, T. A. Dolton, and G. W. Reed (AIAA J) ... 64
Comparative studies of the attack of pyrolytic and isotropic graphite by atomic and molecular oxygen at high temperatures. Daniel E. Rosner and H. Donald Allendorf (AIAA J) ... 650
Two-dimensional transient ablation and heat conduction analysis for multimaterial thrust chamber walls. H. A. Friedman and B. L. McFarland (JSR) ... 753
Oscillatory hypersonic boundary-layer flow with ablation. G. Lengelle (AIAA J) ... 808
Manned Earth entry at hyperbolic velocities. J. F. McCarthy Jr. and G. M. Hanley (JSR) ... 1009
Performance of charring ablative materials in the diffusion-controlled surface combustion regime. John H. Lundell, Robert R. Dickey, and Jerold W. Jones (AIAA J) ... 1118
Effects of environmental and ablator performance uncertainties on heat-shielding requirements for hyperbolic entry vehicles. W. D. Coleman, L. F. Hearne, J. M. Lefferdo, L. W. Gallagher, and N. S Vojvodich (JSR) ... 1260
Thermal protection systems for a Mars-entry vehicle. A. A. Hiltz, D. E. Florence, and D. L. Lowe (JSR) ... 1278
Observables testing of ablative materials. Jefferson F. Newton (AIAA J) ... 2255
Strength and stress-strain properties of rapidly heated laminated ablative materials. A. Ching and W. E. Welsh Jr. (AIAA J) ... 2312
Ablation patterns on cones having laminar and turbulent flows. Thomas N. Canning, Max E. Wilkins, and Michael E. Tauber (AIAA J, TN) ... 174
Ablation of a spherical body due to a nonuniform surface heat-flux distribution. Stephen W. Zelazny and Lawrence A. Kennedy (JSR, EN) ... 874
Ablative surface recession and mass loss on large-angle sphere-cones. K. J. Orlik-Rückemann (JSR, EN) ... 996
High-enthalpy re-entry simulation for planetary return missions. John W. Schaefer and Donald T. Flood (JSR, EN) ... 1108
Plasma arc testing of hypervelocity materials. Ernst M. Goldstein (JSR, EN) ... 1232
Guidance law and impact prediction for interplanetary vehicles. Roger W. Johnson (JSR, EN) ... 1235
Performance of superlight ablators in simulated Mars entry including micrometeroid damage. Eric L. Strauss (JSR, EN) ... 1357
Catalysis of ablation reactions between char and reinforcement. J. D Seader, J. V. Larsen, R. W. Thompson, and J. D. Chidley (JSR, EN) ... 1362
A new gun barrel erosion reducer. Jean-Paul Picard and Russell L. Trask (JSR, EN) ... 1487
Surface recession rate of an ablating polymer. Nelson H. Kemp (AIAA J, TN) ... 1790
Correlation of graphite nozzle throat erosion in solid-rocket motors. John L. Mayberry, James W. Kordig, Richard J. Zeamer, and Stanley C. Browning (AIAA J, TN) ... 2222
Interface conditions in heat-conduction problems with change of phase. P. D. Patel (AIAA J, TN) ... 2454
Erratum: "Laminar convective heating and ablation in the Mars atmosphere." Joseph G. Marvin and Ronald B. Pope (AIAA J, TC) ... 192
Comment on QA multicomponent boundary layer chemically coupled to an ablating surface." Paul A. Libby (AIAA J, TC) ... 570
Reply by authors to P. A. Libby. R. M. Kendall, R. A. Rindal, and E. P. Bartlett (AIAA J, TC) ... 570
Comment on "Carbon-silica reaction in silica-phenolic composites." Roald A. Rindal and Carl B. Moyer (AIAA J, TC) ... 991

Heat Conduction

Analytical solution for transient flow of energy in a one-dimensional radiating fin. Lynn D. Russell and Alan J. Chapman (AIAA J) ... 90
An analytical representation of temperature distributions in gravity gradient rods. Francis A. Florio and Robert B. Hobbs Jr. (AIAA J) ... 99
Two-dimensional transient ablation and heat conduction analysis for multimaterial thrust chamber walls. H. A. Friedman and B. L. McFarland (JSR) ... 753
Thermodynamic design fundamentals of high-performance insulation. N. R. Folkman and T. G. Lee (JSR) ... 954
Thermal response of a rotating isothermal plate in space. Herbert J. Harris (JSR, EN) ... 340
Transient conduction method of evaluating thermal protection materials. W. J. Rivers (JSR, EN) ... 741
Heat conduction in a bounded, anisotropic medium. Herbert Reismann (AIAA J, TN) ... 744
Ablation of a spherical body due to a nonuniform surface heat-flux distribution. Stephen W. Zelazny and Lawrence A. Kennedy (JSR, EN) ... 874
Use of thermal greases to conduct heat across sheet-metal interfaces. Eugene D. Veilleux (JSR, EN) ... 1238
Transient combined conduction-radiation in an optically thick semi-infinite medium. R. P. Heinisch and R. Viskanta (AIAA J, TN) ... 1409
Heat transfer in pyrolytic graphite: A hybrid computer simulation. David A. Stoike and Walter J. Karplus (JSR, EN) ... 1491
Lagrangian approach to the nonlinear boundary heat-transfer problem. Pawel Rafalski and Wiktor Żyszkowski (AIAA J, TN) ... 1606
Calculation of the wall-temperature distribution in transpiration cooling. M. Saarlas (AIAA J, TN) ... 1608
Interface conditions in heat-conduction problems with change of phase. P. D. Patel (AIAA J, TN) ... 2454
A numerical method for a Stefan problem. Harold J. Breaux (AIAA J, TC) ... 1821
Reply by author to H. J. Breaux. Richard Eppes Jr. (AIAA J, TC) ... 1822

Radiation and Radiative Heat Transfer

Radiative heat exchange and equilibrium surface temperature in a space environment. R. G. Hering (JSR) ... 47
Application of Rosseland approximation and solution based on series expansion of the emission power to radiation problems. Yehuda Taitel and J. P. Hartnett (AIAA J) ... 80
Analytical solution for transient flow of energy in a one-dimensional radiating fin. Lynn D. Russell and Alan J. Chapman (AIAA J) ... 90
An analytical representation of temperature distributions in gravity gradient rods. Francis A. Florio and Robert B. Hobbs Jr. (AIAA J) 99
Experimental and theoretical study of molecular, continuum, and line radiation from planetary atmospheres. Wesley A. Menard, George M. Thomas, and Thomas M. Helliwell (AIAA J) ... 655
Visible and near-infrared emittance of ablation chars and carbon. R. Gale Wilson and Cary R. Spitzer (AIAA J) ... 665
Thermodynamic design fundamentals of high-performance insulation. N. R. Folkman and T. G. Lee (JSR) ... 954
Optical solar reflector: A highly stable, low α_s/ϵ spacecraft thermal control surface. K. N. Marshall and R. A. Breuch (JSR) ... 1051
A study of radiation properties of oxide-metal composites. S. A. Hassan, A. M. Dhanak, and F. H. Buelow (AIAA J) ... 1126
Radiative characteristics of absorbing, emitting, and scattering media on opaque substrata. R. L. Merriam and R. Viskanta (JSR) ... 1210
Effects of environmental and ablator performance uncertainties on heat-shielding requirements for hyperbolic entry vehicles. W. D. Coleman, L. F. Hearne, J. M. Lefferdo, L. W. Gallagher, and N. S. Vojvodich (JSR) ... 1260
A second-order approximation for local radiant flux and temperature in semigray nondiffuse enclosures. R. G. Hering and R. P. Bobco (JSR) ... 1271
Spectral reflectance of water and carbon dioxide cryodeposits from 0.36 to 1.15 μ. B. E. Wood and A. M. Smith (AIAA J) ... 1362
Thermo/structural analysis of a large flexible paraboloid antenna. F. A. Florio and A. T. Josloff (JSR) ... 1417

Convective and radiative heat transfer to an ablating body. H. Hoshizaki and L. E. Lasher (AIAA J) ... 1441
Shock-tube measurements of end-wall radiative heat transfer in air. Robert A. Golobic and Robert M. Nerem (AIAA J) ... 1741
Numerical solution to the radiation heat-transfer equation for scattering medium. F. Shahrokhi and P. Wolf (AIAA J) ... 1748
Scattering of radiation by particle layers. Adel F. Sarofim, Hoyt C. Hottel, and Edward J. Fahimian (AIAA J) ... 2262
Wake-temperature turbulent fluctuation decay rates deduced from O_2 radiation. George W. Sutton and Morton Camac (AIAA J) ... 2402
Heat-transfer solution for a gas/particle mixture losing heat to parallel boundaries. Michael J. McIntosh (JSR, EN) ... 114
Iso-irradiance contours 3 to 5 cm from an A-H6 mercury arc lamp. Carl A. Erdman, W. J. Courtney and J. E. Gilligan (JSR, EN) ... 229
Thermal response of a rotating isothermal plate in space. Herbert J. Harris (JSR, EN) ... 340
Optimization of a central-fin space radiator. Horst Keil (JSR, EN) ... 463
Differential approximation for radiative transfer in a nongrey gas near equilibrium. Allen C. Cogley, Walter G. Vicenti, and Scott E. Gilles (AIAA J, TN) ... 551
A simplified chemical model for estimating the nonequilibrium radiant emission of CN(Violet) in shock-heated mixtures of CO_2 and N_2. Gene P. Menees and Robert L. McKenzie (AIAA J, TN) ... 554
Radiation operator in nonequilibrium plasmas. Albert Solbès (AIAA J, TN) ... 737
Effect of direction dependent properties on radiation interchange. J. S. Toor and R. Viskanta (JSR, EN) ... 742
Semigrey radiative transfer. D. Finkelman and K. Y. Chien (AIAA J, TN) ... 755
Nongray radiative stagnation point heat transfer. John D. Anderson Jr. (AIAA J, TN) ... 758
Accuracy of zone and nodal finite-difference techniques. D. Nathanson, F. Gabron, and D. W. Almgren (JSR, EN) ... 876
Radiative effects in the precursor region of high-speed wedge flow. Peter C. Smith (AIAA J, TN) ... 936
Angle factors between a small flat plate and a diffusely radiating sphere. E. G. Hauptmann (AIAA J, TN) ... 938
Method of evaluating F variance for thermal variance analysis. Takao Ishimoto and Jerry T. Bevans (AIAA J, TN) ... 1178
Solar heating of a long circular cylinder with semigray surface properties. M. Iqbal and B. D. Aggarwala (JSR, EN) ... 1229
Structural optimization of a space radiator. Robert D. Cockfield (JSR, EN) ... 1240
Radiant heat transfer in a spherically symmetric medium. R. F. Chisnell (AIAA J, TN) ... 1389
Transient combined conduction-radiation in an optically thick semi-infinite medium. R. P. Heinisch and R. Viskanta (AIAA J, TN) ... 1409
Thermodielectric radiometer. Larry D. Russell and Benjamin H. Beam (JSR, EN) ... 1501
Determination of solar radiation forces on satellite materials. F. Shahrokhi and H. T. Clark (AIAA J, TN) ... 1569
Heat transfer from a viscous nongray radiating shock layer. John D. Anderson Jr. (AIAA J, TN) ... 1570
Effect of radiative heat transfer on the hypersonic shock layer. M. I. G. Bloor (AIAA J, TN) ... 2006
Molecular backscatter of laser radiation from turbulent air. O. P. Sharma and S. S. Penner (AIAA J, TN) ... 2035
An equation for stagnation-point radiative heat transfer. John D. Anderson Jr. (AIAA J, TN) ... 2216
Optically thin stagnation-point flow. Martin C. Jischke (AIAA J, TN) ... 2219
Effect of shock precursor absorption on superorbital entry heating. L. E. Lasher and K. H. Wilson (AIAA J, TN) ... 2419
Downstream radiation flux to blunt entry vehicles. Raymond K. Burns and Calvin C. Oliver (AIAA J, TN) ... 2452
Comment on "Thermal radiation from the exhaust plume of an aluminized composite propellant rocket." A. J. Laderman and D. J. Carlson (JSR, TC) ... 239
Comment on "Thermal radiation from solid rocket plumes at high altitude." A. J. Laderman and D. J. Carlson (AIAA J, TC) ... 379

Thermal Surface Properties

Spectral emissivity of carbon particle clouds in rocket exhausts. F. P. Boynton, C. B. Ludwig, and A. Thomson (AIAA J) ... 865
Optical solar reflector: A highly stable, low α_s/ϵ spacecraft thermal control surface. K. N. Marshall and R. A. Breuch (JSR) ... 1051
Radiative characteristics of absorbing, emitting, and scattering media on opaque substrate. R. L. Merriam and R. Viskanta (JSR) ... 1210
Insulation evaluation tests for voyager mission. C. S. Lankton, S. J. Babjak, J. R. Crosby and D. Ting (JSR) ... 1285
Sputtering at satellite altitudes. J. Valerio and D. McKeown (AIAA J, TN) ... 1589
Simulated micrometeroid degradation of thermal control coatings. Herman Mark, R. D. Sommers, and M. J. Mirtich (JSR, EN) ... 117
Effects of roughness on rear-surface mirror satellite coatings. Keith E. Starner and Robert L. Stark (JSR, EN) ... 125
Martian sand and dust storms and effects on spacecraft coatings. Gary R. Dyhouse (JSR, EN) ... 473
Effect of direction dependent properties on radiation interchange. J. S. Toor and R. Viskanta (JSR, EN) ... 742

Thermochemistry and Chemical Kinetics

Kinetics performance of barrier-cooled rocket nozzles. Victor Quan, John E. Melde, James R. Kliegel, Gary R. Nickerson and Henry M. Frey (JSR) ... 1137
Catalysis of ablation reactions between char and reinforcement. J. D. Seader, J. V. Larsen, R. W. Thompson, and J. D. Chidley (JSR, EN) ... 1362

Thermal Modeling and Experimental Thermal Simulation

Experimental heat-transfer correlation of a complex spacecraft model. J. B. Werner and P. S. Starrett (JSR) ... 247
Proton and ultraviolet radiation effects on solar mirror reflective surfaces. Roger B. Gillette (JSR) ... 454
Simplified thermal networks for the Lunar Module. John J. Chapter (JSR, EN) ... 1243
Temperature variance in spacecraft thermal analysis. Takao Ishimoto and Jerry T. Bevans (JSR, EN) ... 1372

FLUID DYNAMICS

Boundary Layers and Convective Heat Transfer

Analysis of a "Coanda" type flow. E. K. Parks and R. E. Peterson (AIAA J) ... 4
Effects of shock impingement on the heat transfer around blunt bodies. Barry E. Edney (AIAA J) ... 15
Boundary-layer flows with large injection and heat transfer. Toshi Kubota and Frank L. Fernandez (AIAA J) ... 22
——Errata: "Boundary-layer flows with large injection and heat transfer." T. Kubota and F. L. Fernandez (AIAA J, TC) ... 1215
Similarity laws of friction-reduced flows. W. B. Giles (JH) ... 34
Mixing length and kinematic Eddy viscosity in a compressible boundary layer. George Maise and Henry McDonald (AIAA J) ... 73
Effect of drag-reducing additives on boundary-layer turbulence. Bruce Johnson and Richard H. Barchi (JH, Vol. 2) ... 168
Drag reduction of a non-Newtonian fluid by fluid injection at the wall. E. R. Thompson and W. T. Snyder (JH, Vol. 2) ... 177
An analysis of flat-plate drag with polymer additives. Frank M. White (JH, Vol. 2) ... 181
Transpiration cooling in a laminar boundary layer with solid wall upstream effects. A. L. Laganelli, W. F. Ames, and J. P. Hartnett (AIAA J) ... 193
Approximate solution of the laminar boundary-layer equations with mass transfer. Howard E. Bethel (AIAA J) ... 220
An investigation of the effect of suction on hypersonic laminar boundary-layer separation. K. O. W. Ball and R. H. Korkegi (AIAA J) ... 239
An approximate method of calculating transition regime heat transfer and shear. R. G. Lord and P. J. Harbour (AIAA J) ... 244
Heat transfer and shear stress in the shock-induced unsteady boundary layer on a flat plate. E. J. Felderman (AIAA J) ... 408
Re-entry of radioactive power sources. M. J. Brunner, C. V. Dohner, and R. L. Lawit (JSR) ... 448
Investigation of heat transfer and of suction for tripping boundary layers. Tuncer Cebeci and A. M. O. Smith (JA) ... 450
Stagnation-point convective heat transfer in frozen boundary layers. Ronald B. Pope (AIAA J) ... 619
Impingement of underexpanded plumes on adjacent surfaces. A. R. Maddox (JSR) ... 718
Oscillatory hypersonic boundary-layer flow with ablation. G. Lengelle (AIAA J) ... 808
Approximate solutions for compressible turbulent boundary layers in three-dimensional flow. Richard G. Bradley (AIAA J) ... 859
Predicting turbulent compressible boundary layers in strong adverse pressure gradients. Leonard D. Miller (JSR) ... 959
Analysis of a very high temperature liquid alloy heat exchanger for hydrogen. Edward T. Peters and Larry Kaufman (JSR) ... 1070
A method of solving the three-dimensional laminar boundary-layer equations with application to a lifting re-entry body. Torstein K. Fannelop (AIAA J) ... 1075
Laminar boundary-layer heat transfer in low-thrust rocket nozzles. L. Schoenman and P. Block (JSR) ... 1082
Nonsimilar solution of the multicomponent laminar boundary layer by an integral-matrix method. Robert M. Kendall and Eugene P. Bartlett (AIAA J) ... 1089
Performance losses in low-Reynolds-number nozzles. C. K. Murch, J. E. Broadwell, A. H. Silver, and T. J. Marcisz (JSR) ... 1090
Design of axisymmetric contoured nozzles for laminar hypersonic flow. J. Leith Potter and William H. Carden (JSR) ... 1095
Numerical solutions for radiating hypervelocity boundary-layer flow on a flat plate. Merwin Sibulkin and Jean-Claude Dispaux (AIAA J) ... 1098
Stagnation-point boundary layer with large wall-to-freestream enthalpy ratio. Harold Mirels and William E. Welsh, Jr. (AIAA J) ... 1105
Exhaust plumes from nozzles with wall boundary layers. Frederick P. Boynton (JSR) ... 1143
A detonation tube technique for simulating rocket plumes in a space environment. Jarvis Leng, Richard A. Oman, and Harold B. Hopkins (JSR) ... 1148
Effects of environmental and ablator performance uncertainties on heat-shielding requirements for hyperbolic entry vehicles. W. D. Coleman, L. F. Hearne, J. M. Lefferdo, L. W. Gallagher, and N. S. Vojvodich (JSR) ... 1260
Similarity solution for a laminar, incompressible jet flowing along a curved surface. Bruce Lindow and Isaac Greber (AIAA J) ... 1331
Solution of a three-dimensional boundary-layer flow with separation. Harry A. Dwyer (AIAA J) ... 1336
Turbulent boundary-layer separation ahead of cylinders. J. C. Westkaemper (AIAA J) ... 1352
Convective and radiative heat transfer to an ablating body. H. Hoshizaki and L. E. Lasher (AIAA J) ... 1441
Some similar laminar flows obtained by quasilinearization. Paul A. Libby and T. M. Liu (AIAA J) ... 1541
The hypersonic leading-edge problem. Michael L. Shorenstein and Ronald F. Probstein (AIAA J) ... 1898

An experimental investigation of heat transfer from a highly cooled turbulent boundary layer. Richard A .Hopkins and Robert M. Nerem (AIAA J) 1912
Laminar boundary layers on helicopter rotors in forward flight. W. J. McCroskey and P. F. Yaggy (AIAA J) 1919
Compressible slow viscous flow past a vaporizing droplet. F. E. Fendell, D. E. Coats, and E. B. Smith (AIAA J) 1953
Viscous interaction theory for slender axisymmetric bodies in hypersonic flow. H. Mirels and J. W. Ellinwood (AIAA J) 2061
Hypersonic viscous interaction on slender cones. C. C. Horstman and M. I. Kussoy (AIAA J) 2364
Turbulent boundary-layer growth and separation on a yawed cone. William John Rainbird (AIAA J) 2410
Laminar velocity profiles in adverse pressure gradients. C. Y. Liu and V. A. Sandborn (JA, EN) 93
Effect of inlet boundary-layer thickness and structure on heat transfer in a supersonic nozzle. L. H. Back, P. F. Massier, and R. F. Cuffel (JSR, EN) 121
Laminar compressible boundary layer on a blunt body. C. S. Wells Jr. and C. B. Blumer (AIAA J, TN) 159
A hot-gas tunnel for convective heating experiments. E. K. Bastress and W. R. Niessen (JSR, EN) 211
Liquid propellant stratification with sidewall and bottom heating. Stanley E. Hurd and Edward Y. Harper (JSR, EN) 220
Non-Newtonian stagnation flow with mass injection. Kun Ha Kim and Arsev H. Eraslan (JH, Vol. 2, EN) 221
Method of integral relations as applied to the problem of laminar free mixing. D. R. Crawford and M. Holt (AIAA J, TN) 372
Inner region of transpired turbulent boundary layers. T. N. Stevenson (AIAA J, TN) 553
Comment on "Inner region of transpired turbulent boundary layers." Thomas J. Dahm and Robert M. Kendall (AIAA J, TC) 1822
Reply by author to T. J. Dahm and R. M. Kendall. T. N. Stevenson (AIAA J, TC) 1824
On compressible turbulent-plane couette flow. R. H. Korkegi and R. A. Briggs (AIAA J, TN) 742
Coolant starvation in a transpiration-cooled hemispherical shell. P. J. Schneider and R. E. Maurer (JSR, EN) 751
Similarity solutions of the three-dimensional, compressible, laminar boundary layer in Cartesian coordinates. Robert E. Singleton (AIAA J, TN) 760
Correlation of the virtual origin of a turbulent boundary layer. James J. Komar (AIAA J, TN) 908
Heat-transfer measurements in the shock-induced flow separation region in a supersonic nozzle. L. H. Back, P. F. Massier, and R. F. Cuffel (AIAA J, TN) 923
Method of accelerated successive replacement applied to boundary-layer equations. H. G. Lew (AIAA J, TN) 929
Unit Reynolds number effects on boundary-layer transition at Mach 6. Edward J. Hopkins and Earl R. Kenner (AIAA J, TN) 956
Turbulent boundary-layer heat transfer and transition measurements for cold-wall conditions at Mach 6. Aubrey M. Cary Jr. (AIAA J, TN) 958
Quasi-similar solutions for the general three-dimensional stagnation point. Robert E. Singleton (AIAA J, TN) 973
Ablative surface recession and mass loss on large-angle sphere-cones. K. J. Orlik-Rückemann (JSR, EN) 996
Correlation of turbulent heat flux to deceleration flaps in supersonic flow. Donald E. Nestler (JSR, EN) 998
Corrlation of peak heating for reattachment of separated flows. Dennis M. Bushnell and Leonard M. Weinstein (JSR, EN) 1111
Compressible boundary layer and its low-speed equivalent. John E. Lewis (AIAA J, TN) 1185
Evaluation of Coles' turbulent compressible boundary-layer theory. John B. Miles and Jong Hyun Kim (AIAA J, TN) 1187
Heat-transfer predictions in the cooling passages of nuclear rocket nozzles. Maynard F. Taylor (JSR, EN) 1353
Effect of an electrostatic field on boundary-layer transition. Henry R. Velkoff and Jeffry Ketcham (AIAA J, TN) 1381
Nonequilibrium sublimation in a boundary layer at Lewis number = 1. Martin Zlotnick (AIAA J, TN) 1419
An equation of the theory of the boundary layer on rotating airfoils. V. Saljnikov and V. Djordjević (AIAA J, TN) 1567
Calculation of the wall-temperature distribution in transpiration cooling. M. Saarlas (AIAA J, TN) 1608
Turbulent heat transfer associated with control surfaces at Mach 6. J. Wayne Keyes, Theodore J. Goldberg, and James C. Emery (AIAA J, TN) 1612
Wall shear stress and heat transfer for shock-induced laminar boundary layers. J. A. D. Ackroyd (AIAA J, TN) 1620
Wall similarity in three-dimensional turbulent boundary layers. T. S. Prahlad (AIAA J, TN) 1772
Preston tubes in the transpired turbulent boundary layer. Roger L. Simpson and Derrill G. Whitten (AIAA J, TN) 1776
Interaction of an oblique shock wave with a turbulent boundary layer. William C. Rose, John D. Murphy, and Earl C. Watson (AIAA J, TN) 1792
Injection effects in high Prandtl number boundary-layer flows. D. R. Kassoy (AIAA J, TN) 1796
Compressible, turbulent boundary layer with pressure gradient. J. S. Shang (AIAA J, TN) 1802
Asymptotic non-Newtonian boundary-layer flow with suction. E. R. Thompson and W. T. Snyder (AIAA J, TN) 1804
Boundary layer on the wall of a curved converging channel. Dale B. Taulbee and Hirabhai N. Patel (AIAA J, TN) 1808
An analogy for laminar boundary layers on curved or porous surfaces. B. R. Clayton and B. S. Massey (AIAA J, TN) 1813
Approximate solution of the compressible laminar boundary-layer equations. Leroy Devan (AIAA J, TN) 2010
Similarity analyses via group theory. M. J. Moran and R. A. Gaggioli (AIAA J, TN) 2014
Comment on "Similarity analyses via group theory." C. H. Gabbert (AIAA J, TC) 2047
Integral method for the stagnation region of a hypersonic viscous shock layer with blowing. Sang-Wook Kang and Michael G. Dunn (AIAA J, TN) 2031
Class of solutions of the axisymmetric boundary-layer equations with mass transfer. Morris Morduchow and Paul A. Libby (AIAA J, TN) 2045
Skin-friction measurements in strong interaction. R. C. Smith and G. A. Elliott (AIAA J, TN) 2189
Similar solutions for the laminar wall jet in a decelerating outer flow. J. Steinheuer (AIAA J, TN) 2198
Flow over finite bodies with massive injection. P. D. Thomas, R. J. Conti and C. H. Kruger (AIAA J, TN) 2229
Nonsteady stagnation-point flow. James C. Williams III (AIAA J, TN) 2417
Laminar boundary layer with constant wall shear stress. Victor Zakkay and Edgar Alzner (AIAA J, TN) 2432
Comment on "Numerical solution of the boundary-layer equations" Robert C. Gunness Jr. and Terry B. French (AIAA J, TC) 190
Reply by author to R. C. Gunness Jr. and T. B. French. Egon Krause (AIAA J., TC) 190
Erratum: "Laminar convective heating and ablation in the Mars Atmosphere." Joseph G. Marvin and Ronald B. Pope (AIAA J, TC) 192
Comment on "A multicomponent boundary layer chemically coupled to an ablating surface." Paul A. Libby (AIAA J, TC) 570
Reply by authors to P. A. Libby. R. M. Kendall, R. A. Rindal, and E. P. Bartlett (AIAA J, TC) 570
Erratum: "Some comments on the laminar compressible boundary-layer analysis with arbitrary pressure gradient." Nathan Ness (AIAA J, TC) 992
Structures, structural dynamics, and holography. Robert L. Swaim (AIAA J, TC) 1215
Erratum: "Heat transfer to wavy wall in hypersonic flow." M. H. Bertram, L. M. Weinstein, A. M. Cary Jr., and J. P. Arrington (AIAA J, TC) 1216
Comment on "An experimental model for the sharp flat plate in rarefied hypersonic flow." K. Stewartson (AIAA J, TC) 1628
Reply by authors to K. Stewartson. S. M. Bogdonoff, W. D. Hayes, and W. J. McCroskey (AIAA J, TC) 1628
Comment on "A combined visual and hot-wire-anemometer investigation of boundary-layer transition." Alfons Michalke (AIAA J, TC) 1631
Reply by author to A. Michalke. Patrick J. Roache (AIAA J, TC) .. 1631

Boundary Layer Stability and Transition

Turbulent boundary-layer characteristics of compliant surfaces. Edward F. Blick and Robert R. Walters (JA) 11
A combined visual and hot-wire anemometer investigation of boundary-layer transition. C. F. Knapp and P. J. Roache (AIAA J) ... 29
Boundary-layer transition on sharp cones at hypersonic Mach numbers. Dal V. Maddalon and Arthur Henderson Jr. (AIAA J) 424
Shock-wave reflection from a turbulent boundary layer with mass bleed. William R. Seebaugh, Gerald C. Paynter, and Morris E. Childs (JA) 461
Boundary-layer transition at supersonic speeds: Roughness effects heat transfer. E. R. van Driest and C. B. Blumer (AIAA J) 603
Transonic flow in unconventional nozzles. D. F. Hopkins and D. E. Hill (AIAA J) 838
Observations on the influence of ambient pressure on boundary-layer transition. J. Leith Potter (AIAA J) 1907
Hypersonic transition studies on a slender cone at small angles of attack. Dal V. Maddalon and Arthur Henderson Jr. (AIAA J, TN) 176
Effects of freestream disturbances on boundary-layer transition. J. G. Spangler and C. S. Wells Jr. (AIAA J, TN) 543
Comment on "Effects of freestream disturbances on boundary-layer transition." James A. Miller (AIAA J, TC) 2461
Reply by authors to J. A. Miller. J. G. Spangler and C. S. Wells Jr. (AIAA J, TC) 2461
Boundary-layer transition from minuteman flight tests. Richard H. Miller (JSR, EN) 995
Dynamic response of liquid jet breakup. Marcus F. Heidmann and John F. Groeneweg (AIAA J, TN) 2033
Erratum: "Boundary-layer transition on ablating cones at speeds up to 7 km/sec." Max E. Wilkins and Michael E. Tauber (AIAA J, TC) 2047

Subsonic and Transonic Flow

Techniques for the study of the combustion of metals. A. S. Gordon, C. M. Drew, J. L. Prentice, and R. H. Knipe (AIAA J, SA) 577
Numerical lifting-surface theory—problems and progress. Mårten T. Landahl and Valter J. E. Stark (AIAA J, SA) 2049
Analysis of a "Coanda" type flow. E. K. Parks and R. E. Petersen (AIAA J) 4
A numerical solution for the minimum induced drag of nonplanar wings. J. L. Lundry and P. B. S. Lissaman (JA) 17
Extraction of aerodynamic derivatives from flight data, using an analog regression technique. Robert M. Marchetti (JA) 22
Drag coefficient of small spherical particles. B. P. Selberg and J. A. Nicholls (AIAA J) 401
Calculation of transonic flow over thick airfoils by integral methods. J. C. Crown (AIAA J) 413
Upstream influence of the base pressure. R. F. Weiss and W. Nelson (AIAA J) 466
Calculation of profile drag of airfoils at low Mach numbers. Tuncer Cebeci and A. M. O. Smith (JA) 535
Instability of high-drag planetary entry vehicles at subsonic speeds. Donna L. Shirley and John E. Misselhorn (JSR) 1165

A linear theory for the jet flap in ground effect. Peter B. S. Lissaman (AIAA J) 1356
Some similar laminar flows obtained by quasilinearization. Paul A. Libby and T. M. Liu (AIAA J) 1541
Aerodynamic loading on a two-dimensional airfoil during dynamic stall. Norman D. Ham (AIAA J) 1927
Contour plotting for the transonic flight-test drag polar. K. E. Ward (JA, EN) 191
Analysis of the pressure response of a cavity vented to a missile launcher. Richard H. Miller and Charles R. Russell (JSR, EN) 492
Flow near the intersection of a wall and a dividing streamline. Gerald Schubert (AIAA J, TN) 549
——Errata: "Flow near the intersection of a wall and a dividing streamline." Gerald Schubert (AIAA J, TC) 1216
A method for predicting aerodynamic characteristics of slender lifting re-entry vehicles at low speeds. S. C. Ghorai (JSR, EN) 619
A note on disturbances due to surface slope discontinuities. Richard B. White (AIAA J, TN) 941
Subsonic drag of spheres at Reynolds numbers from 200 to 10,000. Kenneth L. Goin and W. R. Lawrence (AIAA J, TN) 961
Aerodynamic drag of a spacecraft centrifuge for crew reconditioning. Alain G. Mona (JSR, EN) 993
A high Reynolds number wind tunnel and its operating concept. John W. Davis (JSR, EN) 1225
Conjecture on a connection between lift and particle displacement. Stanley Corrsin (AIAA J, TN) 1811
Comment on "Forces on spheres inside diffusers." Fred W. Schmidt and George S. Springer (AIAA J, TC) 1436
Correction to Tsien's listing of ideal gas flow. Allen E. Fuhs (AIAA J, TC) 1632

Supersonic and Hypersonic Flow

Numerical lifting-surface theory—problems and progress. Mårten T. Landahl and Valter J. E. Stark (AIAA J, SA) 2049
Experiments on the distributions of local pressure and heat transfer on a grid simulating a parachute fabric. C. J. Scott and M. Ruiz-Urbieta (JA) 78
Determination of the turbulent base pressure in supersonic axisymmetric flow. Thomas J. Mueller (JSR) 101
A study of the interaction of gaseous jets from transverse slots with supersonic external flows. F. W. Spaid and E. E. Zukoski (AIAA J) 205
Experimental studies on the lip shock. Francis R. Hama (AIAA J) 212
Nonequilibrium hypersonic flow past smooth symmetric bodies. L. L. Perini and W. L. Melnik (JSR) 309
An interaction model of a supersonic laminar boundary layer on sharp and rounded backward facing steps. Eric Baum (AIAA J) 440
Determination of unsteady supersonic flows around thin pointed wings by asymptotic expansions. Jean-Yves Parlange (JA) 455
Condensation of air and nitrogen in hypersonic wind tunnels. Fred L. Daum and George Gyarmathy (AIAA J) 458
Design and development of an air intake for a supersonic transport aircraft. I. H. Rettie and W. G. E. Lewis (JA) 513
Aerodynamic relationships inherent in Newtonian impact theory. Howard Jaslow (AIAA J) 608
Massive blowing experiments. Jerry F. Bott (AIAA J) 613
Effect of gaps on the loading distribution of planar lifting surfaces. Richard B. White and Marten T. Landahl (AIAA J) 626
Dynamic stability analysis of bodies of revolution in supersonic flow. M. F. Platzer and A. D. Sherer (JSR) 833
Postflight Apollo command module aerodynamic simulation tests. B. J. Griffith and D. E. Boylan (JSR) 843
Angle of attack and leading edge effects on the flow about a flat plate at Mach number 18. J. Allegre and C. Bisch (AIAA J) 848
Comment on "Angle of attack and leading edge effects on the flow about a flat plate at Mach number 18". Joseph H. Kemp Jr. (AIAA J, TC) 2459
Study of penetration of a liquid injectant into a supersonic flow. M. A. Kolpin, K. P. Horn, and R. E. Reichenbach (AIAA J) 853
Predicting turbulent compressible boundary layers in strong adverse pressure gradients. Leonard D. Miller (JSR) 959
Computational aspects of the detached shock problem. Jay A. Leavitt (AIAA J) 1084
Forebody effects on drogue drag in supersonic flow. B. Dayman Jr. and D. W. Kurtz (JSR) 1335
High-speed monorail rocket sleds for aerodynamic testing at high Reynolds numbers. D. J. Rigali and L. V. Feltz (JSR) 1341
Effect of supersonic interference on lateral stability of low-aspect-ratio missiles in combined pitch and yaw. Humes H. Hart (JSR) 1457
Hypersonic lifting body optimization. W. L. Hankey and G. A. Elliott (JSR) 1463
Hypersonic viscous flow over slender bodies with sharp leading edges. S. Rudman and S. G. Rubin (AIAA J) 1883
The hypersonic leading-edge problem. Michael L. Shorenstein and Ronald F. Probstein (AIAA J) 1898
Viscous interaction theory for slender axisymmetric bodies in hypersonic flow. H. Mirels and J. W. Ellinwood (AIAA J) 2061
Hypersonic viscous interaction on slender cones. C. C. Horstman and M. I. Kussoy (AIAA J) 2364
Flow phenomena and separation over delta wings with trailing-edge flaps at Mach 6. Allen H. Whitehead Jr. and J. Wayne Keyes (AIAA J) 2380
Regarding the utility of spiked blunt bodies. H. Harvey Album (JSR, EN) 112
Flowfield in the vicinity of cylindrical protuberances on a flat plate in supersonic flow. Paul J. Waltrup, Douglas G. Hall, and Joseph A. Schetz (JSR, EN) 127
Pitch-damping coefficients at hypersonic speeds. Edward F. Blick (AIAA J, TN) 164
An empirical expression for drag coefficients of cones at supersonic speeds. John Carroll Hill (AIAA J, TN) 165
Generalized correlations of force coefficients for a blunted cone. Zenon Popinski (JSR, EN) 346
Velocity effects on a body passing through a rocket plume. Jacques A. F. Hill, James Stark Draper, and Philip O. Jarvinen (JSR, EN) 486
Wind-tunnel measurements of transition on the face of a blunt entry capsule at angle of attack. Robert A. Jones (AIAA J, TN) 545
Pressure distribution on cone-cylinders in hypersonic flow. K. J. Touryan, G. E. Clark, and D. J. Rigali (AIAA J, TN) 739
Erratum: "Pressure distribution on cone-cylinders in hypersonic flow." K. J. Touryan, G. E. Clark, and D. J. Rigali (AIAA J, TC) 1824
Supersonic flow from a porous metal plate. R. P. Shreeve (AIAA J, TN) 752
Relaxation entropy layer for a convex corner in a linearized supersonic flow. T. R. Sundaram (AIAA J, TN) 907
Supersonic transverse injection into a supersonic stream. Joseph A. Schetz, Robert A. Weinraub, and Raymond E. Mahaffey Jr. (AIAA J, TN) 933
A note on disturbances due to surface slope discontinuities. Richard B. White (AIAA J, TN) 941
A correspondence of blunt-body nonequilibrium shock layers. Robert L. McKenzie (AIAA J, TN) 944
Similarity rule estimation methods for cone flow with variable gamma. E. F. Blick, R. R. Walters, and C. Von Rosenberg (AIAA J, TN) 959
Quasi-similar solutions for the general three-dimensional stagnation point. Robert E. Singleton (AIAA J, TN) 973
Finite Mach number weak interaction on a flat plate. Mitchel H. Bertram (AIAA J, TN) 984
Investigation of flow separation over a rearward-facing step in a hypersonic stream. J. S. Shang and R. H. Korkegi (AIAA J, TN) 986
Correlation of turbulent heat flux to deceleration flaps in supersonic flow. Donald E. Nestler (JSR, EN) 998
Determination of flight speeds and drag coefficients from time and distance measurements. Edward T. Pitkin (JSR, EN) 1000
Mach reflection on a cone. David L. Merritt (AIAA J, TN) 1208
Atmospheric entry and heating of micron-size particles. Ivan Stern (JSR, EN) 1350
Base pressure results at M = 4 using free-flight and sting-supported models. John M. Cassanto (AIAA J, TN) 1411
Correlation of drag coefficients for sharp cones. Charles E. Wittliff (AIAA J, TN) 1430
Electron beam flow visualization in hypersonic helium flow. Leonard M. Weinstein, Richard D. Wagner Jr., and Stewart L. Ocheltree (AIAA J, TN) 1623
An extended correlation of hypersonic conical normal force data to large incidence. Oscar L. George Jr. and Jack D. Whitfield (AIAA J, TN) 1771
Derivation and tests of a constant Newtonian pressure gradient body. P. Calvin Stainback and Robert A. Jones (AIAA J, TN) 1788
Density and velocity measurements in high-speed flows. W. J. McCroskey (AIAA J, TN) 1805
Shock standoff distances of blunt and sharp cones. L. Christopher Ward and Philip G. Pugh (AIAA J, TN) 2018
Boat-tailed after bodies at $M_\infty = 2$ with gas ejection. J. E. Bowman and W. A. Clayden (AIAA J, TN) 2029
Lift and drag of flat-top configurations of arbitrary cross section. Howard Jaslow (AIAA J, TN) 2039
Mean properties of a region of separation in laminar hypersonic flow. P. R. Wilkinson and R. A. East (AIAA J, TN) 2183
Optimum body geometries of minimum heat transfer at hypersonic speeds. Yasuhiko Aihara (AIAA J, TN) 2187
Asymptotic behavior of hypersonic flow over blunted slender wedges. Wilhelm Schneider (AIAA J, TN) 2235
A "square" flare—a second note. L. H. Ohman (AIAA J, TN) 2449
Comment on "Shock-wave shapes around spherical- and cylindrical-nosed bodies." John D. Anderson Jr., Lorenzo M. Albacete, and Allen E. Winkelmann (JSR, TC) 1247

Nozzle and Channel Flow

Design of rocket nozzles to reduce gas misalignment. H. M. Darwell and G. F. P. Trubridge (JSR) 36
Determination of the turbulent base pressure in supersonic axisymmetric flow. Thomas J. Mueller (JSR) 101
Turbulence measurements in pipe flow of a drag-reducing non-Newtonian fluid. C. S. Wells Jr., J. Harkness, and W. A. Meyer (AIAA J) 250
Freezing of dissociation and recombination in supersonic nozzle flows: Park I. General discussion and special analysis. H. K. Cheng and R. S. Lee (AIAA J) 823
Freezing of dissociation and recombination in supersonic nozzle flows: Part II. More general analysis and numerical example. H. K. Cheng and R. S. Lee (AIAA J) 831
Transonic flow in unconventional nozzles. D. F. Hopkins and D. E. Hill (AIAA J) 838
Laminar boundary-layer heat transfer in low-thrust rocket nozzles. L. Schoenman and P. Block (JSR) 1082
Performance losses in low-Reynolds-number nozzles. C. K. Murch, J. E. Broadwell, A. H. Silver, and T. J. Marcisz (JSR) 1090
Design of axisymmetric contoured nozzles for laminar hypersonic flow. J. Leith Potter and William H. Carden (JSR) 1095
Kinetic performance of barrier-cooled rocket nozzles. Victor Quan, John E. Melde, James R. Kliegel, Gary R. Nickerson, and Henry M. Frey (JSR) 1137
Exhaust plumes from nozzles with wall boundary layers. Frederick P. Boynton (JSR) 1143
A detonation tube technique for simulating rocket plumes in a space environment. Jarvis Leng, Richard A. Oman, and Harold B. Hopkins (JSR) 1148

Factors affecting flow separation in contoured supersonic nozzles. Roy A. Lawrence and Edmund E. Weynand (AIAA J) 1159
Effect of direction and wavelength dependent surface properties on radiant heat transfer. J. R. Schornhorst and R. Viskanta (AIAA J) 1450
Convergent-divergent nozzle flows. James R. Kliegel and Victor Quan (AIAA J) 1728
Outline of a second-order theory of turbulent pipe flow. H. Tennekes (AIAA J) 1735
Effect of inlet boundary-layer thickness and structure on heat transfer in a supersonic nozzle. L. H. Back, P. F. Massier, and R. F. Cuffel (JSR, EN) 121
Theoretical studies on performance of a magnetofluiddynamic (MFD) converging-diverging nozzle. Tarit K. Bose (JSR, EN) .. 617
Separated flow region within a planar expansion-deflection nozzle. Thomas J. Mueller and Charles R. Hall Jr. (JSR, EN) 738
Supersonic flow from a porous metal plate. R. P. Shreeve (AIAA J, TN) 752
Heat-transfer measurements in the shock-induced flow separation region in a supersonic nozzle. L. H. Back, P. F. Massier, and R. F. Cuffel (AIAA J, TN) 923
A perforated-wall nozzle for variable Mach number testing. W. J. Sheeran, K. C. Hendershot, and J. F. Martin (JSR, EN) 1101
Shear stress distribution in confined equilibrium turbulent flows. W. H. Webb (AIAA J, TN) 1176
Effect of downstream geometry on rarefied gas flow through a nozzle throat. L. J. Pavagadhi and F. O. Smetana (AIAA J, TN) 1387
A method for measuring Reynolds number, viscosity, and atom concentration in hypervelocity nozzles. N. M. Reddy (AIAA J, TN) 1398
Subsonic flow of hot gas through a highly cooled channel. Harold Mirels (AIAA J, TN) 1585
Transient expansion of real hydrogen from a storage reservoir. John C. Bruch Jr. and Hartley H. King (AIAA J, TN) 1785
Boundary layer on the wall of a curved converging channel. Dale B. Taulbee and Hirabhai N. Patel (AIAA J, TN) 1808
Pressure ratio correction factor when utilizing the hydraulic analogy. Charles J. Schorr (JSR, TC) 1119
Reply by author to C. J. Shorr. D. M. Adams (JSR, TC) 1120

Rarified Flows

Diffusive separation in shock waves and freejets of nitrogen-helium mixtures. Daniel I. Sebacher (AIAA J) 51
Comment on "Diffusive separation in shock waves and freejets of nitrogen-helium mixtures." R. E. Center (AIAA J, TC) 2238
Reply by author to R. E. Center. Daniel I. Sebacker (AIAA J, TC). 2238
Hypersonic viscous flow over slender bodies with sharp leading edges. S. Rudman and S. G. Rubin (AIAA J) 1883
The hypersonic leading-edge problem. Michael L. Shorenstein and Ronald F. Probstein (AIAA J) 1898
Theoretical and experimental study of rarefied supersonic flows about several simple shapes. F. W. Vogenitz, G. A. Bird, J. E. Broadwell, and H. Rungaldier (AIAA J) 2388
Hypersonic low-density flow past slender wedges. W. L. Chow and R. E. Eilers (AIAA J, TN) 177
An experimental study of hypersonic rarefied flow over a blunt body. Duvvuri Tirumalesa (AIAA J, TN) 369
Effect of molecular interreflections on a concave wddge in free molecule flow. C. R. Wimberly (AIAA J, TN) 734
Rarefied gas flow through annuli. Mancil W. Milligan, Peter W. Cowling, and Harvey J. Wilkerson (AIAA J, TN) 914
Experiments on impact probes in a rarefied subsonic gas stream. A. K. Sreekanth (AIAA J, TN) 927
Effect of incomplete energy accommodation on free molecule recovery temperature. Melvin Epstein (AIAA J, TN) 972
Recent experimental evidence bearing on satellite drag coefficients. Kenneth Moe (AIAA J, TN) 1375
Errata: "Recent experimental evidence bearing on satellite drag coefficients." Kenneth Moe (AIAA J, TC) 2048
Effect of downstream geometry on rarefied gas flow through a nozzle throat. L. J. Pavagadhi and F. O. Smetana (AIAA J, TN) 1387
Hypersonic, low-density sphere and cone drag correlations. Paul A. Taub (AIAA J, TN) 1577
Characteristics of low pressure probes in nonisotropic environments. Uriel Vogel (AIAA J, TN) 1798
Integration of area coordinates in matrix structural analysis. James A. Stricklin (AIAA J, TN) 2023
Convective heating of a yawed concave hemisphere in free molecule flow. C. R. Wimberly (AIAA J, TN) 2420
Comment on "Pressure distributions on sharp cones in rarefied hypersonic flow." Jay M. Solomon (AIAA J, TC) 990
Comment on "An experimental model for the sharp flat plate in rarefield hypersonic flow." K. Stewartson (AIAA J, TC) 1628
Reply by authors to K. Stewartson. S. M. Bogdonoff, W. D. Hayes, and W. J. McCroskey (AIAA J, TC) 1628

Multiphase Flows

Level of a boiling liquid in a low-gravity environment. M. Adelberg (JSR, EN) 108
Atomization of superheated water jets at low ambient pressures. Dennis M. Bushnell and Paul B. Gooderum (JSR, EN) 231
Investigations of geysering in vertical tubes. Johnny E. Burkhalter, Richard H. Sforzini, and Charles R. Tinsley (JSR, EN) 854
An experiment with particles in a free vortex. Siegfried H. Hasinger (AIAA J, TN) 939
Determination of flight speeds and drag coefficients from time and distance measurements. Edward T. Pitkin (JSR, EN) 1000
Atmospheric entry and heating of micron-size particles. Ivan Stern (JSR, EN) 1350

Reactive Flows

Freezing of dissociation and recombination in supersonic nozzle flows: Part I. General discussion and special analysis. H. K. Cheng and R. S. Lee (AIAA J) 823
Freezing of dissociation and recombination in supersonic nozzle flows: Part II. More general analysis and numerical example. H. K. Cheng and R. S. Lee (AIAA J) 831
Experimental and theoretical determination of flow properties in a reacting near wake. Lorin R. Davis (AIAA J) 843
Merged stagnation shock layer of nonequilibrium dissociating gas. P. M. Chung, J. F. Holt, and S. W. Liu (AIAA J) 2372
Coupled vibrational and chemical relaxation for harmonic and anharmonic oscillators. F. H. Maillie and C. T. Hsu (AIAA J, TN) 564
Rotational relaxation in hypersonic low-density flows. Duvvuri Tirumalesa (AIAA J, TN) 765
A correspondence of blunt-body nonequilibrium shock layers. Robert L. McKenzie (AIAA J, TN) 944
A spherical piston problem including the effects of equilibrium chemistry. Nathan Ness and Jack P. Ambrosiani (AIAA J, TN) 1200
Two-dimensional diffuse shock waves in carbon dioxide. Roger A. Strehlow and Kenneth R. Maxwell (AIAA J, TN) 2431

Shock Waves and Detonations

Effects of shock impingement on the heat transfer around blunt bodies. Barry E. Edney (AIAA J) 15
Interaction of a blast wave with a blunt body traveling at supersonic spee ls. Thomas D. Taylor and Henry E. Hudgins Jr. (AIAA J) .. 198
Experimental studies on the lip shock. Francis R. Hama (AIAA J) .. 212
Nonequilibrium hypersonic flow past smooth symmetric bodies. L. L. Perini and W. L. Melnik (JSR) 309
Shock-wave reflection from a turbulent boundary layer with mass bleed. William R. Seebaugh, Gerald C. Paynter, and Morris E. Childs (JA) 461
An investigation of the reflected shock interaction process in a shock tube. D. C. Bull and D. H. Edwards (AIAA J) 1549
Shock relaxation in a particle-gas mixture with mass transfer between phases. Ronald Panton and A. K. Oppenheim (AIAA J) 2071
Measurements of argon shock layer electron densities. Peter E. Oettinger (AIAA J, TN) 150
Newtonian hypersonic theory for normal shock wave structure. William B. Bush and Robert Rosen (AIAA J, TN) 170
Effect of electronic excitation on the relaxation behind shock waves in N_2. Robert F. Kubin (AIAA J, TN) 180
A convenient, explicit formula for oblique-shock calculations. William G. Hill Jr. (JA, EN) 509
Far-field sonic boom waveforms. R. Seebass and F. Edward McLean (AIAA J, TN) 1153
Friction and heat transfer in the flow induced by a subsonic heat source. John H. Skinner Jr. (AIAA J, TN) 1374
Effects of winds and inhomogeneous atmosphere on sonic boom. Y. S. Pan (AIAA J, TN) 1393
Heat transfer from a viscous nongray radiating shock layer. John D. Anderson Jr. (AIAA J, TN) 1570
Plane and spherical detonation waves in solid explosives. Harry H. Calvit (AIAA J, TN) 1610
Two-dimensional diffuse shock waves in carbon dioxide. Roger A. Strehlow and Kenneth R. Maxwell (AIAA J, TN) 2431
Comment on "Sonic booms attributed to subsonic flight." E. J. Kane (AIAA J, TC) 379
Reply to comment by E. J. Kane. R. L. Barger (AIAA J, TC) 379
Comment on precursors in a pressure driven shock tube. Samuel Lederman and Daniel S. Wilson (AIAA J, TC) 382
Comment on "Shock-wave shapes around spherical- and cylindrical-nosed bodies." John D. Anderson Jr., Lorenzo M. Albacete, and Allen E. Winkelmann (JSR, TC) 1247
Comment on "Nonadiabatic temperature distributions behind detached shocks." David Finkleman (AIAA J, TC) 2237
Reply by author to D. Finkleman. H. S. Bluston (AIAA J, TC) ... 2237

Jets, Wakes, and Viscid-Inviscid Flow Interactions

Survey of advanced concepts in nuclear propulsion. G. H. McLafferty (JSR, SA) 1121
Experimental investigation of supersonic laminar, two-dimensional boundary-layer separation in a compression corner with and without cooling. John E. Lewis, Toshi Kubota, and Lester Lees (AIAA J) 7
Determination of the turbulent base pressure in supersonic axisymmetric flow. Thomas J. Mueller (JSR) 101
A study of the interaction of gaseous jets from transverse slots with supersonic external flows. F. W. Spaid and E. E. Zukoski (AIAA J) 205
Experimental studies on the lip shock. Francis R. Hama (AIAA J) 212
Far wake behind cylinders at hypersonic speeds: II. Stability. Wilhelm Behrens (AIAA J) 225
Space correlation measurements in the fluctuating turbulent wakes behind projectiles. Jay Fox (AIAA J) 233
Transient rocket-engine gas flow in soil. Ronald F. Scott and Hon-Yim Ko (AIAA J) 258
Mean-flow measurements in an axisymmetric compressible turbulent wake. Anthony Demetriades (AIAA J) 432
An interaction model of a supersonic laminar boundary layer on sharp and rounded backward facing steps. Eric Baum (AIAA J) 440
Upstream influence of the base pressure. R. F. Weiss and W. Nelson (AIAA J) 466

Linearized inviscid-flow theory of two-dimensional thin jet penetration into a stream. T. Strand and M. H. Y. Wei (JA) 551
Measurements of turbulent velocity and temperature fluctuations in the wake of a sphere. C. H. Gibson, C. C. Chen, and S. C. Lin (AIAA J) 642
Impingement of underexpanded plumes on adjacent surfaces. A. R. Maddox (JSR) 718
Postflight Apollo command module aerodynamic simulation tests. B. J. Griffith and D. E. Boylan (JSR) 843
Experimental and theoretical determination of flow properties in a reacting near wake. Lorin R. Davis (AIAA J) 843
Study of penetration of a liquid injectant into a supersonic flow. M. A. Kolpin, K. P. Horn, and R. E. Reichenbach (AIAA J) 853
Open-cycle and light-bulb types of vortex-stabilized gaseous nuclear rockets. James W. Clark, Bruce V. Johnson, John S. Kendall, Arthur E. Mensing, and Arthur Travers (JSR) 941
Performance losses in low-Reynolds-number nozzles. C. K. Murch, J. E. Broadwell, A. H. Silver, and T. J. Marcisz (JSR) 1090
Mean drop size resulting from the injection of a liquid jet into a high-speed gas stream. M. Adelberg (AIAA J) 1143
Exhaust plumes from nozzles with wall boundary layers. Frederick P. Boynton (JSR) 1143
Jet-boundary simulation parameters for underexpanded jets in a quiescent atmosphere. R. D. Herron (JSR) 1155
Forebody effects on drogue drag in supersonic flow. B. Dayman Jr. and D. W. Kurtz (JSR) 1335
Integral theory for supersonic turbulent base flows. Irwin E. Alber and Lester Lees (AIAA J) 1343
A theoretical and experimental investigation of the compressible laminar wake behind a long slender cylinder. Robert H. C. Au and Stanley A. Berger (AIAA J) 1528
Chemistry of electrons in pure-air hypersonic wakes. Emmett A. Sutton (AIAA J) 1873
Effects of acoustic feedback on the spread and decay of supersonic jets. David R. Glass (AIAA J) 1890
Viscous interaction theory for slender axisymmetric bodies in hypersonic flow. H. Mirels and J. W. Ellinwood (AIAA J) 2061
Experimental investigation of laminar near wakes behind 20° wedges at $M_\infty = 6$. Richard G. Batt and Toshi Kubota (AIAA J) 2077
Study of liquid jet penetration in a hypersonic stream. I. Catton, D. E. Hill, and R. P. McRae (AIAA J) 2084
Wake-temperature turbulent fluctuation decay rates deduced from O_2 radiation. George W. Sutton and Morton Camac (AIAA J) .. 2402
Laminar velocity profiles in adverse pressure gradients. C. Y. Liu and V. A. Sandborn (JA, EN) 93
Regarding the utility of spiked blunt bodies. H. Harvey Album (JSR, EN) 112
Flowfield in the vicinity of cylindrical protuberances on a flat plate in supersonic flow. Paul J. Waltrup, Douglas G. Hall, and Joseph A. Schetz (JSR, EN) 127
An approximate method for predicting plume sizes for nozzle flow into still air. Richard W. Luce and Philip O. Jarvinen (AIAA J, TN) .. 182
Reynolds number dependence of Apollo near-wake temperature. Paul W. Huber and James L. Hunt (AIAA J, TN) 184
Plane laminar jet. Stanley G. Rubin and Robert Falco (AIAA J, TN) 186
Atomization of superheated water jets at low ambient pressures. Dennis M. Bushnell and Paul B. Gooderum (JSR, EN) 231
Generalized correlations of force coefficients for a blunted cone. Zenon Popinski (JSR, EN) 346
Method of integral relations as applied to the problem of laminar free mixing. D. R. Crawford and M. Holt (AIAA J, TN) 372
Experimental exploration of recirculation zone in the gas-core nuclear rocket concept. C. C. Chang, S. W. Chi, and C. M. Chen (JSR, EN) 480
Velocity effects on a body passing through a rocket plume. Jacques A. F. Hill, James Stark Draper, and Philip O. Jarvinen (JSR, EN) 486
Observations on jet flows from a two-dimensional, underexpanded, sonic nozzle. William J. Sheeran and Darshan S. Dosanjh (AIAA J, TN) 540
Convection velocity measurements in hypersonic sphere wakes. D. Heckman, A. Cantin, A. Emond, and A. Kirkpatrick (AIAA J, TN) 750
Similarity of turbulent axisymmetrical swirling jets. Amnon Chervinsky (AIAA J, TN) 912
Another estimate of the similarity parameter for turbulent mixing. R. C. Bauer (AIAA J, TN) 925
Experiments on vortex shedding from yawed circular cylinders. C. W. Van Atta (AIAA J, TN) 931
Stability of a liquid jet in a longitudinal time-varying electric field. Roland J. Raco (AIAA J, TN) 979
Investigation of flow separation over a rearward-facing step in a hypersonic stream. J. S. Shang and R. H. Korkegi (AIAA J, TN) . 986
Correlation of peak heating for reattachment of separated flows. Dennis M. Bushnell and Leonard M. Weinstein (JSR, EN) 1111
Intermittency of far wake turbulence. L. V. Baldwin and V. A. Sandborn (AIAA J, TN) 1163
Local flow effects on base pressure. John M. Cassanto and Richard S. Mendelson (AIAA J, TN) 1182
Stagnation criterion for vortex flows. Hartmut H. Bossel (AIAA J, TN) 1192
An interferometric study of the turbulent wake behind a hypersonic, sharp, slender cone. William G. Reinecke and W. L. McKay (AIAA J, TN) 1204
Effect of mass transfer on ramp-induced separation for a flat plate at Mach 20. Herbert R. Little and B. J. Griffith (AIAA J, TN) 1211
Study of similarity of high-temperature, turbulent jets. Josef Rom (AIAA J, TN) 1368
Molecular mixing lengths for turbulent wakes. George W. Sutton (AIAA J, TN) 1403
Base pressure results at M = 4 using free-flight and sting-supported models. John M. Cassanto (AIAA J, TN) 1411
Some remarks on diffusion processes in turbulent mixing. V. Zakkay, R. Sinha, and H. Fox (AIAA J, TN) 1425
An approximate pressure-angle relation for the axisymmetric supersonic near wake. W. H. Webb (AIAA J, TN) 1427
Similarity parameter for two-stream turbulent jet-mixing region. John B. Miles and Jing-shihong Shih (AIAA J, TN) 1429
Stability and slanting of the electric arc in a thermionic rail accelerator. Charles E. Bond and Robert W. Potillo (AIAA J, TN) 1565
Near-wake injection experiments. Andrew B. Bauer (AIAA J, TN) 1597
Effect of passive chemical reaction on turbulent dispersion. S. Corrsin (AIAA J, TN) 1797
Probe interference in hypersonic near wakes. Pasquale M. Sforza (AIAA J, TN) 1800
Turbulent mixing of a jet in a coflowing stream. Joseph A. Schetz (AIAA J, TN) 2008
Density distribution in turbulent and laminar wakes. L. Tardif and J. G. G. Dionne (AIAA J, TN) 2027
Boat-tailed afterbodies at $M_\infty = 2$ with gas ejection. J. E. Bowman and W. A. Clayden (AIAA J, TN) 2029
Dynamic response of liquid jet breakup. Marcus F. Heidmann and John F. Groeneweg (AIAA J, TN) 2033
Remarks on the application of integral correlation methods in separated flows. A. Seginer and J. Rom (AIAA J, TN) 2195
Similar solutions for the laminar wall jet in a decelerating outer flow. J. Steinheuer (AIAA J, TN) 2198
Compressible wakes in pressure gradients. S. Vasantha and A. Prabhu (AIAA J, TN) 2224
Study of jet mixing problems by Meksyn's method. W. L. Chow (AIAA J, TN) 2422
Cylindrical afterbodies at $M_\infty = 2$ with hot gas ejection. W. A. Clayden and J. E. Bowman (AIAA J, TN) 2429
Effect of chemical reaction fluctuations on turbulent wakes. George W. Sutton (AIAA J, TN) 2438
Some remarks on three-dimensional wakes and jets. Nicholas Trentacoste and Pasquale M. Sforza (AIAA J, TN) 2454
Comment on "Forces on spheres inside diffusers." Fred W. Schmidt and George S. Springer (AIAA J, TC) 1436
Comments on Schlieren measurements of the inviscid hypersonic wake of a sphere. W. H. Webb (AIAA J, TC) 2239

Radiatively Coupled Flows and Heat Transfer

Coupled radiation and conduction in free mixing. Pasquale M. Sforza and Lawrence D. Porter (AIAA J) 2267
Effect of radiative heat transfer on the hypersonic shock layer. M. I. G. Bloor (AIAA J, TN) 2006
Flow of a compressible radiating fluid past an infinite plate with suction. A. S. Gupta and A. S. Chatterji (AIAA J, TN) 2209
An equation for stagnation-point radiative heat transfer. John D. Anderson Jr. (AIAA J, TN) 2216
Optically thin stagnation-point flow. Martin C. Jischke (AIAA J, TN) 2219
Effect of shock precursor absorption on superorbital entry heating. L. E. Lasher and K. H. Wilson (AIAA J, TN) 2419
Downstream radiation flux to blunt entry vehicles. Raymond K. Burns and Calvin C. Oliver (AIAA J, TN) 2452
Comment on "Dynamics of a radiating gas with application to flow over a wavy wall." M. S. Wecker (AIAA J, TC) 571

Viscous Nonboundary-Layer Flows

Level of a boiling liquid in a low-gravity environment. M. Adelberg (JSR, EN) 108
Axially symmetric incompressible turbulent wake downstream of a single body. P. K. Chang and Y. H. Oh (JH, Vol. 2, EN) 223
Comparison of pressure loss predictions determined from bulk two-dimensional adiabatic flow conditions in tubes. J. H. Van Sant and J. H. Pitts (AIAA J, TN) 921
Comment on "Similarity analysis for multicomponent, free convection." Francis Fendell and Louis Solomon (AIAA J, TC) 988
Comments on "Generalized law of the wall and Eddy-viscosity model for wall boundary layers." Frank M. White (AIAA J, TC) 767
Reply by author to F. M. White. Gdalia Kleinstein (AIAA J, TC) .. 990

Plasma Dynamics and MHD

Calculations of the interaction of the solar plasma with the magnetic field of a current loop and two parallel infinite lines of current. Daniel J. McKinzie Jr. and Anthony L. Julius Jr. (JSR) .....
Experimental study of forces on a body in a magnetized plasma stream. Nobuki Kawashima and Sigeru Mori (AIAA J) 110
First-order effects of production on the continuum theory of spherical electrostatic probes. Ira M. Cohen and S. Schweitzer (AIAA J) .. 298
Steady-state, controlled-discharge, linear nonequilibrium magnetogasdynamic generator. Norman A. Evans (AIAA J) 394
Parametric studies of electrohydrodynamic spraying. Robert J. Pfeifer and C. D. Hendricks Jr. (AIAA J) 496
Performance characteristics of a single-wavelength liquid-metal MHD induction generator with end-loss compensation. Donald J. Cerini and David G. Elliott (AIAA J) 503
Electrostatic potential fields of an ionospheric satellite. R. E. Kiel, F. C. Gey, and W. A. Gustafson (AIAA J) 690
Analog studies of magnetic shields. Samuel H. Levine and Richard Lepper (AIAA J) 693
Experimental study of nonequilibrium ionization in a linear MHD generator. Bert Zauderer (AIAA J) 701
Electrostatic probe theory for free molecular cylinders. Roger E. Kiel (AIAA J) 708

A mercury plasma-bridge neutralizer. V. K. Rawlin and E. V. Pawlik (JSR) 814
Experimental investigation of the current density distribution in a simulated MHD generator. Fred W. Fischer (AIAA J) 894
Microwave electron density probe. Manlio Abele, Hector Nedecki, and David Attwood (AIAA J) 901
Performance of thermochemically driven MHD converters. Shimshon Frankenthal (AIAA J) 993
Experiments on current rotations in an MPD engine. A. V. Larson (AIAA J) 1001
Transient wave growth in magnetogasdynamic generators. Walter L. Powers and John B. Dicks (AIAA J) 1007
Mercury hollow cathode plasma bridge neutralizers. J. W. Ward and H. J. King (JSR) 1161
Electrical conductivity of a seeded nitrogen plasma. G. W. Garrison (AIAA J) 1264
Low environmental pressure MPD arc tests. Denis J. Connolly, Ronald J. Sovie, Charles J. Michels, and James A. Burkhart (AIAA J) 1271
Electrical conductivity in seeded noble gas plasmas in crossed electric and magnetic fields. G. Brederlow and R. T. Hodgson (AIAA J) .. 1277
Magnetohydrodynamic flows over a rotating disk. H. P. Pao (AIAA J) 1285
Effect of an electric field on boiling heat transfer. R. L. Johnson (AIAA J) 1456
Symptomatic behavior of an electric arc with a superimposed flow. S. A. Wutzke, E. Pfender, and E. R. G. Eckert (AIAA J) 1474
Erratum: "Symptomatic behavior of an electric arc with a superimposed flow." S. A. Wutzke, E. Pfender, and E. R. G. Eckert (AIAA J, TC) 2047
Experimental anode heat-transfer studies in a coaxial arc configuration. K. T. Shih, E. Pfender, W. E. Ibele, and E. R. G. Eckert (AIAA J) 1482
Electrical performance of a duct with segmented electrodes under various conditions. A. de Montardy and J. Pericart (AIAA J) ... 1633
Effects of electrode and boundary-layer temperatures on MHD-generator performance. R. Kessler and R. H. Eustis (AIAA J) .. 1640
Experimental study of diagonal conducting wall generators using solid propellants. D. L. Denzel, L. J. Davis, Y. C. L. Wu, J. Muehlhauser, R. E. Taylor, R. H. Oliver, and J. B. Dicks (AIAA J) 1647
MHD generator in two-terminal operation. Y. C. L. Wu, J. B. Dicks, D. L. Denzel, S. Witkowski, R. V. Shanklin III, U. Zitzow, P. Chang, and E. S. Jett (AIAA J) 1651
Experimental analysis of an MPD closed-cycle generator with quasi-equilibrium plasma. E. Bertolini, M. Gasparotto, P. Gay, M. A. Hoffman, and R. Toschi (AIAA J) 1658
Nonequilbrium MHD-generator losses due to wall and insulator boundary-layer leakages. Myron A. Hoffman (AIAA J) 1667
A general theory of thin airfoils in nonequilibrium magnetogasdynamics. Part I: Aligned magnetic field. Om Prakash Bhutani and Kul Deepak Nanda (AIAA J) 1757
Measurement of ion velocity distributions in low-density plasma beams. Lotar F. C. Liebing (AIAA J) 1763
Unsteady forced-convection MHD heat transfer in a parallel plate channel. George C. Lindauer and Chia-Jung Hsu (AIAA J) 1973
Experimental investigation of fluctuations in a non-equilibrium MHD plasma. Jack L. Kerrebrock and Rolf Dethlefsen (AIAA J) 2115
A general theory of thin airfoils in nonequilibrium magnetogasdynamics. Part II: Transverse magnetic field. Om Prakash Bhutani and Kul Deepak Nanda (AIAA J) 2122
Current pattern stabilization in pulsed plasma accelerators. A. C. Eckbreth, K. E. Clark, and R. G. Jahn (AIAA J) 2125
Experiments on cylindrical electrostatic probes in a slightly ionized hypersonic flow. S. Lederman, M. H. Bloom, and G. F. Widhopf (AIAA J) 2133
Analysis of MPD arcs with nonequilibrium ionization. R. K. Seals Jr. and H. A. Hassan (AIAA J) 2273
Measurements of argon shock layer electron densities. Peter E. Oettinger (AIAA J, TN) 150
Ion collection from low-speed ionized gas. Norman G. Kulgein (AIAA J, TN) 151
Instability of magneto-acoustic waves in low-pressure plasma. Brian W. Ricketts (AIAA J, TN) 153
Correct formulation of airfoil problems in magneto-aerodynamics. D. N. Fan and G. S. S. Ludford (AIAA J, TN) 167
Some experimental results from a nonequilibrium rf discharge. Laurence R. Boedeker and Charles W. Haldeman (AIAA J, TN) .. 538
Theoretical studies on performance of a magnetofluiddynamic (MFD) converging-diverging nozzle. Tarit K. Bose (JSR, EN) 617
Distribution of plasma potential for an MPD Thruster. J. M. Hoell and D. R. Brooks (AIAA J, TN) 723
Finite ionization rate effects over electrodes in MHD channels. D. A. Oliver and M. Mitchner (AIAA J, TN) 732
Dynamic response of coaxial electric arcs. David M. Benenson, Daniel P. Duhan, and Carl H. Naeher (AIAA J, TN) 917
Electrode-size effects in an MHD generator with nonuniform electrical conduction. J. R. MacDonald, M. Mitchner, and D. A. Oliver (AIAA J, TN) 948
Relaxation effects in J X B devices. K. Lackner, G. S. Argyropoulos, and S. T. Demetriades (AIAA J, TN) 949
Observation of plasma vortices and their magnetic fields inside a conical theta-pinch. E. A. Valsamakis, R. L. Small, and W. H. Bostick (AIAA J, TN) 1161
Electrofluid-dynamic generator performance limits. H. E. Brandmaier (AIAA J, TN) 1166
Effect of multispecies ionization on electrical conductivity calculations. John R. Viegas and Charles H. Kruger (AIAA J, TN) 1193
Kármán-Pohlhausen method for MHD boundary layers. P. Ramamoorthy (AIAA J, TN) 1407
Effects of a dynamic gas on breakdown potential. Jack A. Gardner (AIAA J, TN) 1414
Influence of Lorentz forces on flame-holding. Roger A. Lucheta (AIAA J, TN) 1420
Electron temperature in an electrodeless discharge. Kynric Martin Pell (AIAA J, TN) 1433
Self-magnetic effect in arcjet engines. H. Hügel (AIAA J, TN) 1573
Oscillations in an MPD accelerator. A. C. Malliaris (AIAA J, TN) .. 1575
Electrical shock tube with stabilized driver interface. B. Campbell, H. K. Messerle, S. Ludvik, and A. D. Stokes (AIAA J, TN) 1579
"Limiting circles" of one-dimensional MHD channel flows. Ying-chu Lin Wu (AIAA J, TN) 1581
Electrostatic probe measurements in flowing NaK-seeded argon. Harris B. McKee and M. Mitchner (AIAA J, TN) 1587
Subsonic plasma tunnel for evaluating re-entry flight instrumentation. G. R. Seemann, J. A. Thornton, and A. S. Penfold (AIAA J, TN) .. 1592
Production of ions by electrohydrodynamic spraying techniques. Donald S. Swatik and Charles D. Hendricks (AIAA J, TN) 1596
Film-cooling of a plasma generator anode. Clifford J. Cremers, Warren D. Shiver, and Richard C. Birkebak (AIAA J, TN) 1774
Motion of an electric arc in a transverse magnetic field. W. R. Hingst (AIAA J, TN) 2016
Collisionless plasma flow over a wedge. Marshal Greenblatt (AIAA J, TN) 2019
MHD power generation using an rf-generated nonequilibrium plasma. J. R. Dworschak and H. E. Brandmaier (AIAA J, TN) 2021
Acceleration process in a stabilized high-current arc. Rodney L. Burton and Orson Yah-Shing Chang (AIAA J, TN) 2190
Comment on "A source model for predicting the drag force on a moving arc column." A. E. Guile, K. A. Naylor, and P. F. Hodnett (AIAA J, TC) 190
——Reply by author to Guile, Naylor, and Hodnett, David R. Otis (AIAA J, TC) 192
Comments on "Circulatory flow of a conducting liquid about a porous, rotating cylinder in a radial magnetic field." T. S. Chang and W. K. Sartory (AIAA J, TC) 382
Addendum: "A theoretical investigation of MHD channel entrance flows." A. L. Loeffler Jr. and A. Maciulaitis (AIAA J, TC) 383

Wave Motion and Sloshing

Dynamics of bellows filled with an incompressible liquid. Archie D. Lytle (JSR) 9
Parametric oscillations of a longitudinally excited cylindrical shell containing liquid. Daniel D. Kana and Roy R. Craig Jr. (JSR) .. 13
Longitudinal vibration of spring-supported cylindrical membrane shells containing liquid. Daniel D. Kana, Rudolph F. Glaser, Werner R. Eulitz, and H. Norman Abramson (JSR) 189
Hydroelastic oscillations of a liquid surface in an annular circular cylindrical tank with flexible bottom. Tien-Yu Tsui and Norman C. Small (JSR) 202
A mathematical model for flexible response of uprated Saturn I to in-flight winds. C. R. Wells and H. P. Mitchell (JSR) 313
Surface disintegration of liquid in longitudinally excited containers. C. Richard Gerlach (JSR) 553
Natural frequency of longitudinal modes of liquid prepellant space launch vehicles. C. Desmond Pengelley (JSR) 1425
Gyroscopically induced vibrations of plates and membranes. A. L. Schlack Jr. and P. G. Kessel (AIAA J) 2360
Study of a class of nonlinear systems. B. V. Dasarathy and P. Srinivasan (AIAA J, TN) 736
A zero-g slosh problem. Leslie R. Koval (JSR, EN) 865
Axisymmetric hydroelastic sloshing in an annular cylindrical container. Helmut F. Bauer, Julius Siekmann, and James T. S. Wang (JSR, EN) 981

Hydrodynamics

Water-entry pitch modeling. John G. Waugh (JH, Vol. 2) 87
Leakage flowrate past pistons of oil hydraulic system components. P. Dransfield and D. M. Bruce (JA) 156
High-fidelity underwater simulation of manned space activities. S. E. Goldstein and U. R. Alvarado (JSR) 595
Hydroelastic interaction of shells of revolution during water impact. J. P. D. Wilkinson, A. P. Cappelli, and R. N. Salzman (AIAA J) .. 792
Pressure ratio correction factor when utilizing the hydraulic analogy. Charles J. Schorr (JSR, TC) 1119
Reply by author to C. J. Schorr. D. M. Adams (JSR, TC) 1120

Nonsteady Aerodynamics

Unsteady control surface loads of lifting re-entry vehicles at very high speeds. R. L. Goldman, M. V. Morkovin, and R. N. Schumacher (AIAA J) 44
Unsteady boundary-layer flow over an oscillating thin foil. Wen-Hwa Chu (JH, Vol. 2) 93
Pressure-loading functions for oscillating wings with control surfaces. M. Landahl (AIAA J) 345
Supercritical flow effects on some unsteady aerodynamic coefficients used for flutter analysis. Jerome E. Fischler (JA) 555
Oscillatory hypersonic boundary-layer flow with ablation. G. Lengelle (AIAA J) 808
Solution of the time-dependent Navier-Stokes equations for the flow around a circular cylinder. Sinclaire M. Scala and Paul Gordon (AIAA J) 815
Dynamic stability analysis of bodies of revolution in supersonic flow. M. F. Platzer and A. D. Sherer (JSR) 833
Use of complex cross-flow representation in nonplanar oscillating-surface theory. Valter J. E. Stark (AIAA J) 1535

Second-order theory for flow past oscillating foils. C. F. Chen and Richard A. Wirtz (AIAA J) 1556
Unsteady aerodynamics of an ablating flared body of revolution including effect of entropy gradient. Lars Eric Ericsson (AIAA J) 2395
Nonsteady stagnation-point flow. James C. Williams III (AIAA J, TN) 2417
Calculation of unsteady leading-edge boundary layers. Harry A. Dwyer (AIAA J, TN) 2447

STRUCTURAL MECHANICS AND MATERIALS

Structural Static Analysis

Fabrication and full-scale structural evaluation of glass-fabric reinforced plastic shells. Charles W. Bert, W. C. Crisman, and Gene M. Nordby (JA) 27
Asymptotic solution for short ring-reinforced oval cylinders. N. B. Nissel and W. P. Vafakos (AIAA J) 133
Uniaxial loading of orthotropic materials. B. M. Lempriere (AIAA J) 365
Analysis of curved thin-walled shells of revolution. Arturs Kalnins (AIAA J) 584
Optimum stiffened cylinders for combined axial compression and internal or external pressure. A. Bruce Burns (JSR) 690
Finite deflection structural analysis using plate and shell discrete elements. L. A. Schmit, F. K. Bogner, and R. L. Fox (AIAA J) 781
Developments in structural analysis by direct energy minimization. R. L. Fox and E. L. Stanton (AIAA J) 1036
Finite indentation of elastic-perfectly plastic membranes by a spherical indenter. N. M. Bhatia and W. Nachbar (AIAA J) 1050
A curved, cylindrical-shell, finite element. Gilles Cantin and Ray W. Clough (AIAA J) 1057
Roundoff criteria in direct stiffness solutions. Bruce M. Irons (AIAA J) 1308
Scattered light photoelastic thermal stress analysis of a solid-propellant rocket motor. D. W. Braswell, W. F. Ranson, and W. F. Swinson (JSR) 1411
Thermo/structural analysis of a large flexible paraboloid antenna. F. A. Florio and A. T. Josloff (JSR) 1417
Optimal design of columns. J. E. Taylor and C. Y. Liu (AIAA J) 1497
Solution of nonlinear problems of elastoplasticity by finite element method. F. A. Akyuz and J. E. Merwin (AIAA J) 1825
A finite-element analysis for thin shells. L. R. Herrmann and D. M. Campbell (AIAA J) 1842
Computer analysis of various shells of revolution. B. O. Almroth and D. Bushnell (AIAA J) 1848
Bending theory for multilayer orthotropic sandwich plates. Jamal J. Azar (AIAA J) 2166
Equivalence between single-layered and certain multilayered shells. Robert M. Jones and Stanley Klein (AIAA J) 2295
Nonlinear analysis of shells of revolution by the matrix displacement method. James A. Stricklin, Walter E. Haisler, Hugh R. MacDougall, and Frederick J. Stebbins (AIAA J) 2306
Polygon-circle paradox of simply supported thin plates under uniform pressure. Akella Kameswara Rao and K. Rajaiah (AIAA J, TN) 155
A comparative study of numerical methods of elastic-plastic analysis. P. V. Marcal (AIAA J, TN) 157
Comment on "A comparative study of numerical methods of elastic-plastic analysis." Martin A. Salmon (AIAA J, TC) 1438
Reply by author to M. A. Salmon. P. V. Marcal (AIAA J, TC) 1439
Behavior of triangular shell-element stiffness matrices associated with polyhedral deflection distributions. Senol Utku and Robert J. Melosh (AIAA J, TN) 374
Temperature and shrinkage stresses in orthotropic cylinder bonded to a rigid case. Alfred M. Freudenthal (AIAA J, TN) 376
Thermal stresses in hollow graphite cylinders with asymmetric heating. Sam Tang (JSR, EN) 611
Large deflections of circular sandwich plates. C. V. Smith (AIAA J, (TN) 721
Use of Fourier series in the finite element method. Joseph L. Krahula and John F. Polhemus (AIAA J, TN) 726
An automatic node-relabeling scheme for bandwidth minimization of stiffness matrices. Fevzican A. Akyuz and Senol Utku (AIAA J, TN) 728
Thermally induced membrane stress in a circular elastic shell. Michael J. Forrestal, William E. Alzheimer, and Heinz W. Schmitt (AIAA J, TN) 946
Errata: "Thermally induced membrane stress in a circular elastic shell." Michael J. Forrestal, William E. Alzheimer, and Heinz W. Schmitt (AIAA J, TC) 2464
General solution for two-dimensional couple-stress elasticity. Charles W. Bert and Franklin J. Appl (AIAA J, TN) 968
Calculation of stiffness matrices for finite elements of thin shells of arbitrary shape. J. T. Oden (AIAA J, TN) 969
Thermal stresses in axially loaded orthotropic cylinders. D. E. Boyd and B. R. Kishore (AIAA J, TN) 980
Thermal stresses in temperature-dependent isotropic plates. Sam Tang (JSR, EN) 987
Errata: "Thermal stresses in temperature-dependent isotropic plates." Sam Tang (JSR, TC) 1248
Finite element analysis of skew plates in bending. G. R. Monforton and L. A. Schmit Jr. (AIAA J, TN) 1150
Corrugated shells of revolution. Harold G. Franklin (AIAA J, TN) 1152
Finite-difference solutions for plane stresses. R. E. Chapel and H. W. Smith (AIAA J, TN) 1156
A variational method for the end problems of rectangular strips. S. Gopalacharyulu (AIAA J, TN) 1157
Spatial stability of the new solutions of the Falkner-Skan equation. K. K. Chen and Paul A. Libby (AIAA J, TN) 1168
Explicit expressions for triangular torus element stiffness matrix. Senol Utku (AIAA J, TN) 1174
Stresses in a restrained shrinking disk with a central slot. V. J. Parks, A. J. Durelli, and T. L. Chen (AIAA J, TN) 1181
Modification of elastic properties in structural analysis by force method. Carl J. Swanson, David B. Hall, and Stanley Kaufman (AIAA J, TN) 1189
A cylindrically orthotropic elastic thick ring. W. R. Spillers (AIAA J, TN) 1195
Solar heating of a long circular cylinder with semigray surface properties. M. Iqbal and B. D. Aggarwala (JSR, EN) 1229
Stress concentration of holes in pressurized cylindrical shells. N. C. Lind (AIAA J, TN) 1397
Designing for minimum flexibility or weight. Harold Switzky (JSR, EN) 1473
Effects of hypervelocity impact on honeycomb structures. R. E. Sennett and B. L. Lathrop (JSR, EN) 1496
Stress concentrations around elliptical perforations in shrunk plates with bonded boundaries. August J. Durelli, Vincent J. Parks, and Han-Chow Lee (JSR, EN) 1499
Bending of multilayer sandwich beams. Jao-Shiun Kao and Robert J. Ross (AIAA J, TN) 1583
Deformation of asymmetrically loaded, symmetrically prestressed orthotropic shells of revolution. Yair Tene (AIAA J, TN) 1599
Influence coefficients of short circular cylindrical shells with varying wall thickness. Yen-Ching Pao (AIAA J, TN) 1613
Experimental investigation of sandwich cylinders and cones subjected to axial compression. E. H. Baker (AIAA J, TN) 1769
Radial deformations of cylindrical shells with variable wall thickness. Han-chung Wang and Yen-ching Pao (AIAA J, TN) 1779
Strain displacement relationships for cylindrical shells. Gilles Cantin (AIAA J, TN) 1787
Membrane response of a two-layered, circular shell including the effects of an interlayer bond. Mathias J. Sagartz and Michael J. Forrestal (AIAA J, TN) 1816
Nonlinear, rarefied Rayleigh's problem. A. B. Huang and D. L. Hartley (AIAA J, TN) 2023
A multiple coupling algorithm for the stiffness method of structural analysis. Claus J. Meissner (AIAA J, TN) 2184
Stresses in a long, high mass fraction solid-propellant rocket motor. W. G. Knauss and W. Huffered (AIAA J, TN) 2200
Stresses in laminated composite cylinders. Harold G. Franklin and T. P. Kicher (AIAA J, TN) 2208
Poisson's ratio in orthotropic materials. B. M. Lempriere (AIAA J, TN) 2226
Theory of sandwich shells with laminated anisotropic facings. R. E. Martin (AIAA J, TN) 2232
Viscoelastic stress distribution in a two-phase composite material model. Robert M. Hackett (AIAA J, TN) 2442
Comments on "A note on the general solution of the two-dimensional linear elasticity problem in polar coordinates." C. W. Bert (AIAA J, TC) 568
Comment on "A note on the general solution of the two-dimensional linear elasticity problem in polar coordinates." B. I. Hyman (AIAA J, TC) 568
Comment on "A note on the general solution of the two-dimensional linear elasticity problem in polar coordinates." Frederic Y. M. Wan (AIAA J, TC) 569
Reply by author to the comments by C. W. Bert, B. I. Hyman, and F. Y. M. Wan. W. Z. Sadeh (AIAA J, TC) 569
Comment on "Computation of stress resultants from the element stiffness matrices." Fernando Venâncio Filho (AIAA J, TC) 571
Reply to F. V. Filho. J. A. Stricklin (AIAA J, TC) 572
Comment on "Large deflection of rectangular sandwich plates." C. V. Smith (AIAA J, TC) 574
Reply by author to C. V. Smith. Ju-chin Huang (AIAA J, TC) 574
Stress compatibility equations in cylindrical coordinates. Euval S. Barrekette (AIAA J, TC) 767
Comments on "Boundary-layer turbulence measurements with mass addition and combustion." Robert N. Meroney (AIAA J, TC) 1213
Comment on "A formula for updating the determinant of the covariance matrix." James E. Potter and Donald C. Fraser (AIAA J, TC) 1439
Comment on "A stress-strain approximation in plasticity." H. M. Haydl (AIAA J, TC) 2463
Reply by author to H. M. Haydl. A. D. Fine (AIAA J, TC) 2463

Structural Stability Analysis

Structural synthesis of integrally stiffened cylinders. Thomas P. Kicher (JSR) 62
Computer analysis of asymmetric buckling of ring-stiffened orthotropic shells of revolution. Gerald A. Cohen (AIAA J) 141
Tests of, and semiempirical formulas for, instability of longitudinally stiffened shells. C. H. Tsao and A. Ching (JSR) 196
Structural failure criterion for solid propellants under multiaxial stresses. Adam R. Zak (JSR) 265
Structural analysis of realistic solid-propellant materials. Adam R. Zak (JSR) 270
Buckling of composite cylindrical shells under pure bending. A. C. Ugural and Shun Cheng (AIAA J) 349
Stability analysis of shells of revolution by the finite-element method. D. R. Navaratna, T. H. H. Pian, and E. A. Witmer (AIAA J) 355
Inextensional buckling of spherical shells with edge rings. David Bushnell (AIAA J) 361
Buckling of viscoplastic cylindrical shells due to impulsive loading. A. L. Florence (AIAA J) 532
Buckling of orthotropic cylinders. G. B. Mah, B. O. Almroth, and E. V. Pittner (AIAA J) 598
Dynamic snap-through of shallow arches under stochastic loads. S. T. Ariaratnam and T. S. Sankar (AIAA J) 798

Flexibility of axisymmetric shells. Edward Y. W. Tsui and James A. Cheney (JSR) ... 969
Elastic buckling of composite cylindrical shells under torsion. D. S. Chehil and S. Cheng (JSR) ... 973
Experiments on the snapping of a shallow dome under a step pressure load. M. H. Lock, S. Okubo, and J. S. Whittier (AIAA J) ... 1320
Buckling of inhomogeneous anisotropic cylindrical shells by bending. A. Holston Jr. (AIAA J) ... 1837
Buckling of eccentrically stiffened cylinders under torsion. George J. Simitses (AIAA J) ... 1856
Optimum critical impulse for snap-through in systems of one degree of freedom. N. C. Huang, W. Nachbar, and W. Prager (AIAA J) ... 2289
Buckling of circular cylindrical shells with multiple orthotropic layers and eccentric stiffeners. Robert M. Jones (AIAA J) ... 2301
Buckling of electroformed conical shells under hydrostatic pressure. Josef Singer and Dror Bendavid (AIAA J) ... 2332
Some recent advances in the investigation of shell buckling. Manuel Stein (AIAA J) ... 2339
Comment on "Some recent advances in the investigation of shell buckling." L. J. Hart-Smith (AIAA J, TC) ... 2459
Reply to author to L. J. Hart-Smith. Manuel Stein (AIAA J, TC) ... 2460
Edge restraint effect on buckling of compressed curved panels. L. W. Rehfield and W. L. Hallauer Jr. (AIAA J, TN) ... 187
Compressive buckling of barrel-shaped shells. Herbert Becker (JSR, EN) ... 746
Buckling of filament-wound cylinders by axial compression. A. Holston Jr. (AIAA J, TN) ... 935
Inextensional buckling deformations of general cylindrical shells. Koryo Miura (AIAA J, TN) ... 966
Buckling of doubly curve shallow thin shells. H. M. Haydl (AIAA J, TN) ... 982
Stability boundaries for a two-dimensional panel. Anthony J. Pritchard (AIAA J, TN) ... 1590
Effect of edge restraint coupling on buckling of ring-supported cylinders. Sideney C. Dixon, George E. Weeks, and Melvin S. Anderson (AIAA J, TN) ... 1602
Effect of a nonlinear prebuckling state on the postbuckling behavior and imperfection sensitivity of elastic structures. Gerald A. Cohen (AIAA J, TN) ... 1616
Low strain-rate plastic buckling of aluminum cylinders at 500°F. Ralph Papirno and Richard Goldman (AIAA J, TN) ... 1794
Buckling of a tension panel containing a circular hole. David A. Pellett, Robert G. Costello, and John E. Brock (AIAA J, TN) ... 2012
Stability of straight bars subjected to repeated impulsive compression. Dusan P. Krajcinovic and George Herrmann (AIAA J, TN) ... 2025
Boundary disturbance and pressure rate on the buckling of spherical caps. Leon Ru-Liang Wang (AIAA J, TN) ... 2192
Dynamic stability of rectangular sandwich plates under pulsating loads. Conor D. Johnson and Nelson R. Bauld Jr. (AIAA J, TN) ... 2205
Creep buckling of an elastic-plastic cylindrical shell. Lars Åke Samuelson (AIAA J, TN) ... 2440
Comment on "A note on the general instability of eccentrically stiffened cylinders." Robert M. Jones (JA, TC) ... 192
Reply by author to R. M. Jones' "Comment on 'A note on the general instability of eccentrically stiffened cylinders.'" George J. Simitses (JA, TC) ... 320

Structural Dynamic Analysis

Dynamics of bellows filled with an incompressible liquid. Archie D. Lytle (JSR) ... 9
Parametric oscillations of a longitudinally excited cylindrical shell containing liquid. Daniel D. Kana and Roy R. Craig Jr. (JSR) ... 13
Some contributions on a control-surface buzz at high subsonic speeds. Yasuharu Nakamura (JA) ... 118
Design of elastic mode suppression systems for ride quality improvement. Lester D. Edinger (JA) ... 161
Longitudinal vibration of spring-supported cylindrical membrane shells containing liquid. Daniel D. Kana, Rudolph F. Glaser, Werner R. Eulitz, and H. Norman Abramson (JSR) ... 189
Hydroelastic oscillations of a liquid surface in an annular circular cylindrical tank with flexible bottom. Tien-Yu Tsui and Norman C. Small (JSR) ... 202
Analyses of the longitudinal dynamics of launch vehicles with application to a 1/10-scale Saturn V model. Larry D. Pinson, H. Wayne Leonard, and John P. Raney (JSR) ... 303
Linear optimal theory applied to active structural bending control. Ralph E. Smith and Evan L. S. Lum (JA) ... 479
An analysis of free vibration of orthogonally stiffened cylindrical shells with stiffeners treated as discrete elements. D. M. Egle and J. L. Sewall (AIAA J) ... 518
Buckling of viscoplastic cylindrical shells due to impulsive leading. A. L. Florence (AIAA J) ... 532
Dynamics of deployment of extendible booms from spinning space vehicles. Gerald J. Cloutier (JSR) ... 547
Supercritical flow effects on some unsteady aerodynamic coefficients used for flutter analysis. Jerome E. Fischler (JA) ... 555
A vortex method for the study of airplane-missile aerodynamic interference. H. T. Yang (JA) ... 591
Natural frequencies of a flexible gravity-gradient satellite. James K. Newton and James L. Farrell (JSR) ... 560
Dynamic pulse buckling of cylindrical shells under transient lateral pressures. D. L. Anderson and H. E. Lindberg (AIAA J) ... 589
Hydroelastic interaction of shells of revolution during water impact. J. P. D. Wilkinson, A. P. Cappelli, and R. N. Salzman (AIAA J) ... 792
Dynamic snap-through of shallow arches under stochastic loads. S. T. Ariaratnam and T. S. Sankar (AIAA J) ... 798
Membrane frequencies for spherical shell vibrations. Edward W. Ross Jr. (AIAA J) ... 803
Circumferential modes of vibration of a model for a solid-propellent rocket. J. D. Achenbach and F. H. Chou (JSR) ... 964
Flexibility of axisymmetric shells. Edward Y. W. Tsui and James A. Cheney (JSR) ... 969
Generation of thermoelastic stress waves by impulsive electromagnetic radiation. L. W. Morland (AIAA J) ... 1063
Numerical solution of stress waves in layered media. Shun-Chin Chou and Robert Greif (AIAA J) ... 1067
Design methods for transient response and isolation of ground-founded microprecision slabs. R. L. McNeill, B. E. Margason, F. M. Babcock, and J. A. Barneich (JSR) ... 1297
Coupling of substructures for dynamic analyses. Roy R. Craig Jr. and Mervyn C. C. Bampton (AIAA J) ... 1313
On the response of shallow thin shells to random excitations. S. Nemat-Nasser (AIAA J) ... 1327
Natural frequency of longitudinal modes of liquid propellant space launch vehicles. C. Desmond Pengelley (JSR) ... 1425
A dynamic stability study of a centrifuge-equipped space station. R. K. Sleeper and H. C. Lester (JSR) ... 1432
Analysis of axisymmetrical motions of cylindrical shells by the method of characteristics. Pei Chi Chou (AIAA J) ... 1492
Stress and deflection of honeycomb panels loaded by spatially uniform white noise. Marcus J. Jacobson (AIAA J) ... 1503
Studies of parameter significance in shell-liquid impact. G. E. Nevill Jr., W. J. Morales, and J. M. Horowitz (AIAA J) ... 1511
Dynamic stability of axially loaded columns subjected to stochastic excitations. John A. Lepore and Haresh C. Shah (AIAA J) ... 1515
Circumferentially traveling wave flutter of a circular cylindrical shell. David A. Evensen and Mervyn D. Olson (AIAA J) ... 1522
Dispersion of free harmonic waves in fiber-reinforced composites. J. D. Achenbach and G. Herrmann (AIAA J) ... 1832
Transient response of cylindrical, shell-core systems. W. E. Alzheimer, M. J. Forrestal, and W. B. Murfin (AIAA J) ... 1861
Use of synthetic modes in hybrid coordinate dynamic analysis. Peter W. Likins and Paul H. Wirsching (AIAA J) ... 1867
Exceedances of structural interaction boundaries for random excitation. John C. Houbolt (AIAA J) ... 2175
Dynamic response of finite-length cylindrical shells to nearly uniform radical impulse. I. K. McIvor and E. G. Lovell (AIAA J) ... 2346
Numerical calculation technique for large elastic-plastic transient deformations of thin shells. John W. Leech, Emmett A. Witmer, and Theodore H. H. Pian (AIAA J) ... 2352
Gyroscopically induced vibrations of plates and membranes. A. L. Schlack Jr. and P. G. Kessel (AIAA J) ... 2360
Effect of rise time on critical dynamic load. Malcolm H. Lock (AIAA J, TN) ... 162
Optimum viscous damping of a gravity-gradient-stabilized satellite. F. Taft Murray and Theodore E. Babine (JSR, EN) ... 235
Nonlinear vibrations of beams with various boundary conditions. David A. Evensen (IAAA J, TN) ... 370
Reduction of mass and loading matrices. Stanley Kaufman and David B. Hall (AIAA J, TN) ... 550
The spadoryc—a method of determining damping. John Hogley and David Gimmestad (JA, EN) ... 607
Synthesis of structural damping. C. S. Chang and R. E. Bieber (AIAA J, TN) ... 718
Natural frequencies of clamped cylindrical shells. Bert L. Smith and Everett E. Haft (AIAA J, TN) ... 720
Optimum frequency of structures. Mehdi S. Zarghamee (AIAA J, TN) ... 749
Graphical method for analysis of matched pulses. Willem Stuiver (AIAA J, TN) ... 762
Design modifications in vibration problems. A. V. Krishna Murty and G. Viswa Murty (JSR, EN) ... 870
Frequency response determination using white noise excitation. D. A. McCalister and L. L. Bickford (JSR, EN) ... 872
Generation and measurement of high-amplitude square shocks in solids. Robert L. Durfee and Andrej Maček (AIAA J, TN) ... 977
Optimum design of a vibrating bar with specified minimum cross section. J. E. Taylor (AIAA J, TN) ... 1379
Transverse vibrations of a clamped spinning membrane. Walter Eversman (AIAA J, TN) ... 1395
Nonlinear vibrations of a infinitely long cylindrical shell. David A. Evensen (AIAA J, TN) ... 1401
Finite element solution to dynamic stability of bars. John E. Brown, Johnny M. Hutt, and Ahmed E. Salama (AIAA J, TN) ... 1423
Stresses due to vibration of spherical shells of aeolotropic materials. Jyotirmay Mukherjee (AIAA J, TN) ... 1563
Natural frequencies of orthotropic circular plates of variable thickness. Alan P. Salzman and Sharad A. Patel (AIAA J, TN) ... 1625
Discontinuities in one-dimensional thermoelastic wave propagation in an inhomogeneous medium. Richard Paul Shaw (AIAA J, TN) ... 1626
Superposition of frequencies in nonlinear spring mass systems. V. Achyuta Rao Bapat and P. Srinivasan (AIAA J, TN) ... 1783
Dynamic response of a circular elastic shell to circumferentially moving forces. Michael J. Forrestal and William E. Alzheimer (AIAA J, TN) ... 2231
Rates of change of eigenvalues and eigenvectors. R. L. Fox and M. P. Kapoor (AIAA J, TN) ... 2426
Imperfection sensitivity of stringer stiffened cylinders. Don O. Brush (AIAA J, TN) ... 2445
Comments on "Natural vibrations of a stiffened pressurized cylinder with an attached mass." Robert Dan Smith (AIAA J, TC) ... 575
Reply by authors to R. D. Smith. I. U. Ojalvo and M. Newman (AIAA J, TC) ... 576

Aeroelasticity and Hydroelasticity

Some aspects of cylindrical shell panel flutter. L. L. Carter and R. O. Stearman (AIAA J) ... 37
Experimental study of a low-modulus flutter strut for a hydrofoil system. T. T. Huang (JH, Vol. 2) ... 198

A mathematical model for flexible response of uprated Saturn I to in-flight winds. C. R. Wells and H. P. Mitchell (JSR) 313
Panel flutter in hypersonic flow. J. A. Bailie and J. E. McFeely (AIAA J) 332
Influence of structural damping on panel flutter. C. H. Ellen (AIAA J) 2169
Sympathetic collapse in water of glass spheres with filler material. Chang-Keng Liu (JH, Vol. 2, EN) 112
Design modifications in vibration problems. A. V. Krishna Murty and G. Viswa Murty (JSR, EN) 870
A stability criterion for flutter of a cylindrical panel. Raymond H. Plaut (AIAA J, TN) 1205
Theoretical-experimental correlation of plate flutter boundaries at low supersonic speeds. E. H. Dowell (AIAA J, TN) 1810
Comment on "Further study on 'A stability criterion for panel flutter via the second method of Liapunov.'" Raymond H. Plaut (AIAA J, TC) 1437
Comment on "Further study on 'A stability criterion for panel flutter via the second method of Liapunov.'" Patrick C. Parks and Anthony J. Pritchard (AIAA J, TC) 1437
Reply by authors to R. H. Plaut, and to P. C. Parks and A. J. Pritchard. George R. Webb, Bennett R. Bass, Charles H. Goodman, Malcolm A. Goodman, and Kar. M. Land (AIAA J, TC) 1438

Hypervelocity Impact

Development of self-sealant techniques for micrometeoroid puncture of aerospace vehicles. S. Schwartz, A. J. Tuckerman, and W. F. Anspach (JSR) 253
Radiative heat transfer from a cylindrical cloud of particles. Leo W. Stockham and Tom J. Love (AIAA J) 1935
Effectiveness of multisheet structures for meteoroid impact protection. Robert E. Sennett (AIAA J, TN) 942
A simplified procedure for determining the perforation limits for thin plates. Deene J. Weidman (AIAA J, TN) (AIAA J, TN) 1622
Infrared radiative equilibrium under large path length conditions. P. Mighdoll and R. D. Cess (AIAA J, TN) 1778

Properties of Materials

Fabrication and full-scale structural evaluation of glass-fabric reinforced plastic shells. Charles W. Bert, W. C. Crisman, and Gene M. Nordby (JA) 27
Effects of 450° and 600°F exposures on the mechanical properties of polyimide/glass-fiber honeycomb sandwiches and laminated beams. Bland A. Stein and Richard A. Pride (JA) 35
Materials for small radius leading edges for hypersonic vehicles. Maynard L. Hill (JSR) 55
Accelerated testing of the mechanical and thermal integrity of polymeric materials. Jerome J. Lohr, Donald E. Wilson, Frank M. Hamaker, and Willie J. Stewart (JSR) 68
Testing of polymeric materials for use in multiple-ply expulsion bladders for cryogenic liquids. D. H. Pope and J. E. Penner (JSR) ... 259
Advanced-composite-material application to aircraft structures. Charles W. Rogers (JA) 311
Stress corrosion cracking of titanium alloys. T. R. Beck and M. J. Blackburn (AIAA J) 326
Structural guidelines for materials development: some vehicle performance and design generalizations. George Gerard (JA) 564
Vacuum effects on fatigue properties of magnesium and two magnesium alloys. H. T. Sumsion (JSR) 700
Environmental limitations of radomes. L. B. Weckesser, R. P. Suess, and R. H. Hallendorff (JSR) 762
Thermodynamic design fundamentals of high-performance insulation. N. R. Folkman and T. G. Lee (JSR) 954
Analysis of a very high temperature liquid alloy heat exchanger for hydrogen. Edward T. Peters and Larry Kaufman (JSR) 1070
Insulation evaluation tests for voyager mission. C. S. Lankton, S. J. Babjak, J. R. Crosby, and D. Ting (JSR) 1285
Limited testing of precracked ceramic rocket nozzles. E. Robinson (JSR) 1400
Radiative heat transfer from a cylindrical cloud of particles. Leo W. Stockham and Tom J. Love (AIAA J) 1935
An evaluation of coated B66 Columbium alloy at elevated temperatures. R. O. Weiss, M. L. Hill, and C. A. Keller (JSR, EN) 215
Influence of solid-state diffusion bonding on structural design. Charles E. Conn Jr. (JSR, EN) 600
Thermal stresses in hollow graphite cylinders with asymmetric heating. Sam Tang (JSR, EN) 611
A note on the nonlinear viscoelastic behavior of polymers. Paul H. DeHoff (AIAA J, TN) 956
Thermal stresses in temperature-dependent isotropic plates. Sam Tang (JSR, EN) 987
Errata: "Thermal stresses in temperature-dependent isotropic plates." Sam Tang (JSR, TC) 1248
Plasma arc testing of hypervelocity materials. Ernst M. Goldstein (JSR, EN) 1232
Performance of superlight ablators in simulated Mars entry, including micrometeroid damage. Eric L. Strauss (JSR, EN) 1357

Structural Composite Materials (Including Coatings)

Effects of 450° and 600°F exposures on the mechanical properties of polyimide/glass-fiber honeycomb sandwiches and laminated beams. Bland A. Stein and Richard A. Pride (JA) 35
Materials for small radius leading edges for hypersonic vehicles. Maynard L. Hill (JSR) 55
Development of self-sealant techniques for micrometeoroid puncture of aerospace vehicles. S. Schwartz, A. J. Tuckerman, and W. F. Anspach (JSR) 253
Testing of polymeric materials for use in multiple-ply expulsion bladders for cryogenic liquids. D. H. Pope and J. E. Penner (JSR) ... 259
Proton and ultraviolet radiation effects on solar mirror reflective surfaces. Roger B. Gillette (JSR) 454
Single and multifiber interactions in discontinuously reinforced composites. D. M. Schuster and E. Scala (AIAA J) 527
Structural plastic composites incorporating new high modulus fibers. H. S. Schwartz and R. G. Spain (AIAA J) 1043
Design study of a. c. motors to operate in helium from liquid to gaseous state. J. H. Redmond and F. W. Bott (JSR) 1065
Fracture process in fluorocarbon laminate composites. Manuel E. Prado (JSR) 1393
Strength and stress-strain properties of rapidly heated laminated ablative materials. A. Ching and W. E. Welsh Jr. (AIAA J) 2312
Elastic-plastic stress distribution within reinforced plastics loaded normal to its internal filaments. Bernard W. Shaffer (AIAA J) ... 2316
Tensile failure of fiber composites. Carl Zweben (AIAA J) 2325
An evaluation of coated B66 Columbian alloy at elevated temperatures. R. O. Weiss, M. L. Hill, and C. A. Keller (JSR, EN) 215
Martian sand and dust storms and effects on spacecraft coatings. Gary R. Dyhouse (JSR, EN) 473
Buckling of filament-wound cylinders by axial compression. A. Holston Jr. (AIAA J, TN) 935
A new gun barrel erosion reducer. Jean-Paul Picard and Russell L. Trask (JSR, EN) 1487
Effects of hypervelocity impact on honeycomb structures. R. E. Sennett and B. L. Lathrop (JSR, EN) 1496
Tensile failure of interface bonds in a composite body subjected to compressive loads. J. D. Achenbach, J. H. Hemann, and F. Ziegler (AIAA J, TN) 2040

Optimal Structural Design

Structural synthesis of integrally stiffened cylinders. Thomas P. Kicher (JSR) 62
Tests of, and semiempirical formulas for, instability of longitudinally stiffened shells. C. H. Tsao and A. Ching (JSR) 196
Optimum stiffened cylinders for combined axial compression and internal or external pressure. A. Bruce Burns (JSR) 690
A materials-design synthesis for optimum design of spacecraft energy-dissipating systems. A. C. Knoell (JSR) 1170
Concepts for more efficient bulkhead designs for launch and space vehicles. Allen I. Berstein and Josef F. Blumrich (JSR) 1404
Influence of solid-state diffusion bonding on structural design. Charles E. Conn Jr. (JSR, EN) 600
Design of minimum-mass structures with specified stiffness properties. S. C. McIntosh and F. E. Eastep (AIAA J, TN) 962
Energy considerations for attitude stability of dual-spin spacecraft. Bertrand T. Fang (JSR, EN) 1241
Minimum weight analysis based on structural reliability. P. N. Murthy and G. Subramanian (AIAA J, TN) 2037
Optimized components in truss synthesis. Lewis P. Felton and Lawrence D. Hofmeister (AIAA J, TN) 2434

INTERDISCIPLINARY TOPICS

Electric Power Generation Research

Performance of thermochemically driven MHD converters. Shimshon Frankenthal (AIAA J) 993
Transient wave growth in magnetogasdynamic generators. Walter L. Powers and John B. Dicks (AIAA J) 1007
Design study of a. c. motors to operate in helium from liquid to gaseous state. J. H. Redmond and F. W. Bott (JSR) 1065
Disk generator. Jean F. Louis (AIAA J) 1674
Observations of large nonequilibrium conductivity in a closed-cycle MPD channel with applied electric and magnetic fields. M. G. Haines and I. R. McNab (AIAA J) 1679
Electrical characteristics of a linear, nonequilibrium, MHD generator. Bert Zauderer and Eric Tate (AIAA J) 1685
Variable-velocity MHD induction generator with rotating-machine internal electrical efficiency. David G. Elliott (AIAA J) 1695
Optimization studies on open-cycle MHD generators. C. Carter and J. B. Heywood (AIAA J) 1703
Transport properties of MHD-generator plasmas. C. H. Kruger, M. Mitchner, and U. Daybelge (AIAA J) 1712
Some diagnostic techniques useful for MHD-generator plasmas. R. Wienecke (AIAA J) 1724
Resistive wall EGD channel. Edward L. Collier and Meredith C. Gourdine (AIAA J) 2278
Performance of CdS solar cells after simulated micrometeroid exposure. Robert L. Bowman and Michael J. Mirtich (AIAA J, TN) .. 378
Electrofluid-dynamic generator performance limits. H. E. Brandmaier (AIAA J, TN) 1166
MHD power generation using an rf-generated nonequilibrium plasma. J. R. Dworschak and H. E. Brandmaier (AIAA J, TN) .. 2021
Comment on "Effect of simulated micrometeroid exposure on performance of N/P silicon solar cells." R. A. Breuch (AIAA J, TC) .. 380
Reply by authors to R. A. Breuch. Michael J. Mirtich and Robert L. Bowman (AIAA J, TC) 381

Atmospheric, Space, and Oceanographic Sciences

A model of chemical releases leading to upper-atmospheric chemi-ion formation. Harold S. Pergament and Arthur Fontijn (AIAA J) .. 94
A method for studying planetary atmospheres employing the dual flyby mode. J. Michael Coogan (JSR) 625

Meteoroid environment near the ecliptic. John K. Wall (AIAA J).. 1013
Effects of mechanical imperfections on performance of a rotating gravity gradiometer. David Berman (JSR)..... 1193
The Moon as a geothermal prospect. Carl F. Austin and J. Kenneth Pringle (AIAA J)..... 1296
Geologic results from the lunar precursor probes. John F. McCauley (AIAA J)..... 1991
Minimum detectable limit of lithium in the upper atmosphere. J. A. Gardner, E. R. Manring, and R. R. Patty (AIAA J)..... 1997
On the role of the satellite for meteorology. P. E. Wasko, E. V. Petersen, and V. Sirounian (JSR, EN)..... 225
Jovian occultation experiment. Benard A. Sodek Jr. (JSR, EN)... 461
Analysis of relative velocity vectors in the asteroid belt. Jerry M. Deerwester (JSR, EN)..... 859
Shielding of solar cells against Van Allen belt protons. Carmine A. Carosella (JSR, EN)..... 878
Dispersions resulting from atmospheric variations. Everett W. Purcell and Thomas B. Barbery (JSR, EN)..... 1005
Some properties of low-altitude winds at Cape Kennedy, Florida. James R. Scoggins (JSR, EN)..... 1222
Studies for aerospace global cloud models. R. H. Blackmer Jr. and S. M. Serebreny (JSR, EN)..... 1476
Flowfield around moving gas clouds in the upper atmosphere. Robert A. Davenport (AIAA J, TN)..... 1819
Upper limit on the spatial density of asteroidal debris. Donald J. Kessler (AIAA J, TN)..... 2450

Navigation, Control, and Guidance Theory

A two-degree-of-freedom control moment gyro for high-accuracy attitude control. Donald J. Liska (JSR)..... 74
A manually retargeted automatic landing system for the lunar module (LM). Allan R. Klumpp (JSR)..... 129
Statistical estimation in inertial navigation systems. Larry D. Brock and George T. Schmidt (JSR)..... 146
Superconducting gyroscope: Drift data and mathematical model. John T. Harding and Donald B. Lawson (AIAA J)..... 305
Evaluation of the computational errors of strapdown navigation systems. John J. Sullivan (AIAA J)..... 312
Some numerical solutions of the rotational Euler equations. Harold Rosenbaum (AIAA J)..... 320
Iteration procedures for indirect trajectory optimization methods. J. M. Lewallen, B. D. Tapley, and S. D. Williams (JSR)..... 321
Effect of dissipative aerodynamic torque on satellite rotation. Kent R. Johnson (JSR)..... 408
Optimum mixing of gyroscope and star tracker data. J. E. Potter and W. E. Vander Velde (JSR)..... 536
Dynamics of the Apollo electromechanical actuator. G. E. Tutt and J. A. Jansen (JSR)..... 541
Optimal terminal guidance of an air-to-surface missile. R. W. Rishel (JSR)..... 649
Estimation using sampled data containing sequentially correlated noise. A. E. Bryson Jr. and L. J. Henrikson (JSR)..... 662
An acceleration vector attitude control system. Sherman M. Seltzer (JSR)..... 666
A neighboring optimum feedback control scheme based on estimated time-to-go with application to re-entry flight paths. Jason L. Speyer and Arthur E. Bryson Jr. (AIAA J)..... 769
A modified Newton's method for solving trajectory optimization problems. G. J. Lastman (AIAA J)..... 777
Orbital gyrocompassing heading reference. J. L. Bowers, J. J. Rodden, E. D. Scott, and D. B. DeBra (JSR)..... 903
Trans-stellar space navigation. Saul Moskowitz and William P. Devereux (AIAA J)..... 1021
A modified Monte Carlo procedure. Thomas S. Logsdon and Robert C. Africano (AIAA J)..... 1111
The Kalman filter in transfer alignment of inertial guidance systems. Arthur A. Sutherland Jr. (JSR)..... 1175
A manual optimal guidance scheme using a predictive model. James D. Gilchrist and Duane E. Soland (JSR)..... 1181
Analytic Monte Carlo error analysis. M. H. Merel and F. J. Mullin (JSR)..... 1304
A simplified explicit guidance scheme for orbital injection. Harold N. Scofield (JSR)..... 1309
Optimal programming problems with a bounded state space. Jason L. Speyer and Arthur E. Bryson Jr. (AIAA J)..... 1488
Comparison of two optimizations of a nonlinear boundary-value problem. James N. Hanson (AIAA J)..... 1979
Nonplanar moon-to-earth trajectories. J. E. Lancaster and J. Kevorkian (AIAA J)..... 1986
Final value optimization of systems with bounded controller and noisy measurements. A. Van Gelder (AIAA J)..... 2001
A statistical analysis of yaw steering for space missions. Jerome M. Baker (JSR, EN)..... 601
Inertial navigation errors for a lifting re-entry vehicle. J. C. Elsey and G. E. Carlson (JSR, EN)..... 604
Closed-form solution for motion of a spinning rigid body. Bradford W. Parkinson (JSR, EN)..... 606
Minimum variance estimates of gyroscopic drift parameters. Charles F. Price (JSR, EN)..... 747
Analytical simulation of spacecraft sensor outputs. Norris R. Burton (JSR, EN)..... 749
Solution of the algebraic matrix Riccati equation via Newton-Raphsen iteration. T. R. Blackburn (AIAA J, TN)..... 951
Comments on "Solution of the algebraic matric Riccati equation via Newton-Raphsen iteration." F. T. Man (AIAA J, TC)..... 2463
Optimal systems depending on parameters. E. Hofer and P. Sagirow (AIAA J, TN)..... 953
A segmented weighting scheme for steepest ascent optimization. W. E. Williamson and W. T. Fowler (AIAA J, TN)..... 976
A method for "closing the loop" in explicit guidance systems. Charles F. Price (AIAA J, TN)..... 1148
A square root formulation of the Kalman covariance equations. Angus Andrews (AIAA J, TN)..... 1165
Optimal lift control of a hypersonic glider. L. Pottsepp and Y. Y. Shi (AIAA J, TN)..... 1169
Regularization in optimal trajectory problems. Andrew J. Kzuchry and Edward T. Pitkin (AIAA J, TN)..... 1209
Asymptotic stability and generalized forces in periodic systems. Charles C. Counselman III (AIAA J, TN)..... 1383
Class of nonlinear third-order systems reducible to equivalent linear systems. B. V. Dasarathy and P. Srinivasan (AIAA J, TN)..... 1400
Passive determination of homing time. A. G. Rawling (AIAA J, TN)..... 1604
Time optimal control for interplanetary flight by dynamic programming. James N. Hanson (AIAA J, TN)..... 2202
Accessibility ellipse and minimum energy trajectories. James B. Eades Jr. (AIAA J, TN)..... 2213
An explicit closed-loop controller for gravity turn landing maneuvers. J. C. Dunn and F. Sobierajski (AIAA J, TN)..... 2424
Nonlinear first-order systems reducible to classical equations. William J. Mason (AIAA J, TN)..... 2444
A method for comparing trajectories in optimum linear perturbation guidance schemes. William F. Powers (AIAA J, TN)..... 2451
Use of the method of particular solutions in quasilinearization. John C. Heideman (AIAA J, TN)..... 2456
Comment on "A test for the sign of the second variation." W. E. Schmitendorf (AIAA J, TC)..... 1629
Reply by authors to W. E. Schmitendorf. G. J. Lastman and B. D. Tapley (AIAA J, TC)..... 1630

Research Facilities and Instrumentation

Accelerated testing of the mechanical and thermal integrity of polymeric materials. Jerome J. Lohr, Donald E. Wilson, Frank M. Hamaker, and Willie J. Stewart (JSR)..... 68
Feasibility of a high-performance aerodynamic impulse facility. R. Leon Leonard and Peter H. Rose (AIAA J)..... 448
Comment on "Feasibility of a high-performance aerodynamic impulse facility." Clarence J. Harris (AIAA J, TC)..... 1439
Condensation of air and nitrogen in hypersonic wind tunnels. Fred L. Daum and George Gyarmathy (AIAA J)..... 458
Bypass piston tube, a new device for generating high temperatures and pressures in gases. Stellan Knoos (AIAA J)..... 632
Wind-tunnel measurements at M = 4.28 of some static and dynamic aerodynamic characteristics of finned missiles suspended magnetically. Alan B. Copeland, Eugene E. Covert, and Robert A. Petersen (JSR)..... 838
A precision, active, table-leveling system. Daniel B. DeBra, James C. Mathiesen, and Richard A. Van Patten (JSR)..... 1040
A detonation tube technique for simulating rocket plumes in a space environment. Jarvis Leng, Richard A. Oman, and Harold B. Hopkins (JSR)..... 1148
Accurate surface temperature measurements at liquid-helium conditions in space environment facilities. John F. Cassidy and Walter M. Krawczonek (JSR)..... 1291
Design methods for transient response and isolation of ground-founded microprecision slabs. R. L. McNeill, B. E. Margason, F. M. Babcock, and J. A. Barneich (JSR)..... 1297
High-speed monorail rocket sleds for aerodynamic testing at high Reynolds numbers. D. J. Rigali and L. V. Feltz (JSR)..... 1341
An analog technique for the equalization of multiple electromagnetic shakers for vibration testing. Marc R. Trubert (JSR)..... 1438
A hot-gas tunnel for convective heating experiments. E. K. Bastress and W. R. Niessen (JSR, EN)..... 211
Iso-irradiance contours 3 to 5 cm from an A-H6 mercury arc lamp. Carl A. Erdman, W. J. Courtney, and J. E. Gilligan (JSR, EN)... 229
A gimbal system for solar simulation testing. R. G. Hertzler and A. G. Burke III (JSR, EN)..... 476
An inertial test laboratory 1100 ft below the earth's surface. W. M. Weil, W. E. Srode, and R. M. Burrows Jr. (JSR, EN)..... 478
Measurement of film thickness of thin-film resistance thermometers. David J. McCaa (AIAA J, TN)..... 747
High-sensitive film gages for low-density shock tubes. Alfred Beylich (AIAA J, TN)..... 753
Frequency response determination using white noise excitation. D. A. McCalister and L. L. Bickford (JSR, EN)..... 872
Optimal configuration for a zero-g nucleonic fuel gage. Robert J. Pfeifer (JSR, EN)..... 985
A perforated-wall nozzle for variable Mach number testing. W. J. Sheeran, K. C. Hendershot, and J. F. Martin (JSR, EN)..... 1101
High-enthalpy re-entry simulation for planetary return missions. John W. Schaefer and Donald T. Flood (JSR, EN)..... 1108
Thermodielectric radiometer. Larry D. Russell and Benjamin H. Beam (JSR, EN)..... 1501
Electron beam flow visualization in hypersonic helium flow. Leonard M. Weinstein, Richard D. Wagner, Jr., and Stewart L. Ocheltree (AIAA J, TN)..... 1623
Pulsed holographic interferometry vs Schlieren photography. L. D. Siebert and D. E. Geister (AIAA J, TN)..... 2194
Doppler shift measurements with the double-wedge technique. M. U. Potter and B. Ahlborn (AIAA J, TN)..... 2227
Pressure oscillations produced in a wind tunnel by hinged plates in the walls of the test section. F. Edward Ehlers (AIAA J, TN)... 2436

Aerospace Technology Utilization

Design and implementation of an integrated information system. Richard H. Stanwood (JSR, EN)..... 361

Computer Technology and Computer Simulation Techniques

Statistical estimation in inertial navigation systems. Larry D. Brock and George T. Schmidt (JSR) 146
Experimental heat-transfer correlation of a complex spacecraft model. J. B. Werner and P. S. Starrett (JSR) 247
Computer-controlled steering of the Apollo spacecraft. Frederick H. Martin and Richard H. Battin (JSR) 400
Two-dimensional transient ablation and heat conduction analysis for multimaterial thrust chamber walls. H. A. Friedman and B. L. McFarland (JSR) 753
Computer-managed laboratory for space applications. A. L. Medin, D. J. Cavanaugh, and S. B. Cades (JSR) 1205
Optimal matrices describing linear systems. John E. Brock (AIAA J) 1292
Thermal response of a rotating isothermal plate in space. Herbert J. Harris (JSR, EN) 340
Analytic simulation of spacecraft sensor outputs. Norris R. Burton (JSR, EN) 749
Accuracy of zone and nodal finite-difference techniques. D. Nathanson, F. Gabron, and D. W. Almgren (JSR, EN) 876
Validation of checkout procedures by computer simulation. Robert L. Jaegly (JSR, EN) 1003
Heat transfer in pyrolytic graphite: A hybrid computer simulation. David A. Stoike and Walter J. Karplus (JSR, EN) 1491

Checkout Systems

An airborne manual/automatic malfunction detection system. J. T. Mash (JA) 502
Development of an onboard checkout system simulator using an alphanumeric display. R. J. Bier and S. D. Brolly (JSR) 1199

Aerospace Management

Translation and application of aerospace management technology to socio-economic problems. K. H. Borchers, C. S. Lightfoot, and R. W. Hovey (JSR, EN) 467
Safety in recovery of Apollo spacecraft. J. B. Hammack and J. C. Stonesifer (JSR, EN) 484

Law, History, Policy, and Sociology

Historical perspectives on Apollo. Eugene M. Emme (JSR, SA) ... 369

Translation and application of aerospace management technology to socio-economic problems. K. H. Borchers, C. S. Lightfoot, and R. W. Hovey (JSR, EN) 467

Reliability, Quality Control, and Maintainability

Advancing DC-9 maintenance techniques through multiparameter recording. J. F. Nemecek (JA) 292
Reliability and operational economics of the next decade of jet transports. H. W. Adams (JA) 570
Data systems and data analysis methods to support onboard in-flight operations. D. M. Prongay (JA) 578
Gyro reliability in the Apollo guidance, navigation, and control system. John E. Miller and Julius Feldman (JSR) 638
System concepts for a liquid mercury cathode thruster. H. J. King, J. H. Molitor, and S. Kami (JSR) 933
System effectiveness through interchangeability. Barnett Frumkin (JSR, EN) 338
The long-life spacecraft problem. R. W. Burrows (JSR, EN) 362

Safety

Non-Newtonian fuels for aircraft safety. A. Beerbower, J. Nixon, and T. J. Wallace (JA) 367
Human error research and analysis program (HERAP). J. A. Mastropaolo, A. A. Burrows, R. E. Luehrs, and R. A. Alkov (JA) .. 497
Oxygen safety—submarine to aircraft. Raymond E. Geller (JA) ... 584
Operational range safety for solid-propellant sounding rockets. Loyd C. Parker (JSR) 705
Space-flight mission design for flight and crew safety. Carl R. Huss, Claiborne R. Hicks Jr. and Charlie C. Allen (JSR) 711
Development of the Apollo launch escape system. J. F. McCarthy Jr., J. Ian Dodds, and R. S. Crowder (JSR) 927
Heat-resistant explosives for space applications. E. E. Kilmer (JSR) 1216
Progressive qualitative hazard analyses. Willie Hammer (JSR, EN) 343
Implementation of safety provisions in manned systems. Merrill E. Cornell (JSR, EN) 359
Modeling for systems safety in manned space programs. Sol W. Malasky (JSR, EN) 472
Liquid-propellant explosions. R. F. Fletcher (JSR, EN) 1227
Atmospheric entry and heating of micron-size particles. Ivan Stern (JSR, EN) 1350

SAVE ON JOURNAL COSTS

These four journals of the AIAA are available to members at exceptionally low costs.

***AIAA JOURNAL*—Regularly $33 per year, member price just $8**

Each month the AIAA Journal carries authoritative and lasting contributions on fundamental research in your specialty—new ideas, complete treatments, recent data, and fundamental reviews emphasizing basic research and exploratory developments in all aerospace fields.

***JOURNAL OF SPACECRAFT AND ROCKETS*—Regularly $30 per year, for members just $7**

The Journal of Spacecraft and Rockets carries authoritative articles on space technology—basic engineering systems studies and advances. *Monthly* issues contain timely engineering notes in propulsion, power systems, life systems, guidance, material, and all other disciplines in the space flight field—plus an average of 17 articles.

***JOURNAL OF AIRCRAFT*—Nonmembers pay $18 yearly, your cost only $5**

The Journal of Aircraft provides informative professional articles on current aeronautical engineering topics and special reviews on the technological, operational, and design problems of military and commercial aircraft and ground effect vehicles. This basic journal publishes up to a dozen full-length articles *bimonthly* plus engineering notes of current interest to aeronautical engineers.

***JOURNAL OF HYDRONAUTICS*—$12 a year for nonmembers, $4 for you**

This quarterly carries significant articles that contribute to the advancement of science and engineering concerning all types of marine craft, installations, and instrumentation. Launched in July, 1967, the *Journal of Hydronautics* deals with the hydromechanics of propulsion, the stability and control of surface vessels and submersibles, and methods for providing mobility and habitation in water. A *quarterly*.

Return this order blank with check or money order to: AIAA Subscription Department
1290 Sixth Avenue
New York, New York 10019

Please enter my one-year subscription to:

☐ AIAA JOURNAL—$8/yr Member rate
☐ JOURNAL OF SPACECRAFT AND ROCKETS—$7/yr Member rate
☐ JOURNAL OF AIRCRAFT—$5/yr Member rate
☐ JOURNAL OF HYDRONAUTICS—$4/yr Member rate

Amount enclosed_____

NAME_____

ADDRESS_____

CITY_____ STATE_____ ZIP CODE_____